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STATE OF SOUTH CAROLINA

# REPORT

OF THE

## STATE COMMISSION OF FORESTRY

FOR THE YEAR

JULY 1, 1982 TO JUNE 30, 1983



LEONARD A. KILIAN, JR., State Forester

COLUMBIA, S. C.

PRINTED UNDER THE DIRECTION OF THE  
STATE BUDGET AND CONTROL BOARD

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STATE DOCUMENTS

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*To Honorable Richard W. Riley, Governor and to the  
General Assembly of South Carolina:*

Sirs:

Pursuant to Section 3 of Act of General Assembly creating the State Commission of Forestry, approved April 26, 1927, which provides that the Commission shall "inquire into and make annual report upon forest conditions in South Carolina, with reference to the preservation of forests, the effect of the distribution of forests upon the general welfare of the State, and other matters pertaining to the subject of Forestry and tree growth including recommendations to the public generally as to reforestation." I have the honor to submit the report of the Commission for the period of July 1, 1982 to June 30, 1983.

Respectfully submitted

STATE COMMISSION OF FORESTRY

C. H. Niederhof

## STATE COMMISSION OF FORESTRY

C. H. Niederhof, Chairman

## S. C. STATE COMMISSION OF FORESTRY

### MEMBERS OF THE COMMISSION

C. H. Niederhof, *Chairman*, Goose Creek

Eugene H. Kneece, Jr., *Vice Chairman*, Aiken

Boris Hurlbutt, Walterboro

Joseph C. Woodard, Sr., Eastover

Henry F. Floyd, Pickens

M. Calhoun Colvin, Holly Hill

Joe Brice Williamson, Kingstree

John Edward Bankhead, Richburg

Dr. Bill L. Atchley, *President, Clemson University*, Clemson

### ADMINISTRATION

Leonard A. Kilian, Jr., State Forester and Secretary to the Commission

Claude F. Barden, Executive Assistant to State Forester

Chauncey R. Nichols, Staff Director

John M. Shirer, Assistant State Forester/Engineering and Logistics

Robert J. Gould, Assistant State Forester/Field Operations

Charles F. Moore, Assistant State Forester/Administration



## MAJOR ACCOMPLISHMENTS

- Suppressed 2,572 wildfires which burned 7,825 acres.
- Prepared 2,641 woodland examinations for landowners covering 179,198 acres.
- Produced 47.8 million forest tree seedlings — enough to reforest 66,000 acres.
- Processed and approved 616 applications for reforestation under Federal Cost Sharing Programs paying \$990,000 for reforestation of over 15,000 acres
- Processed and approved State Forest Renewal Program application on 170 tracts with \$194,000 paid for reforestation of over 2,600 acres of woodlands.
- 745 tracts had forest management services provided and landowners paid \$78,742 for the services.
- Marked 5.2 million board feet of sawtimber and 15,000 cords of pulpwood for sale for private landowners. Seventeen thousand five hundred ninety dollars received for these services.
- Prosecuted 42 forest fire law violations.
- Over 560 forest conservation programs produced reaching 25,000 people and distributed over 330,000 pieces of fire prevention materials.
- Conducted forest fire suppression training for 300 Rural Fire Department volunteers in 29 departments.
- Evaluated Southern Pine Beetle and hardwood defoliator problems and recommended treatments.
- Completed greenhouse for production of containerized seedlings and grew 130,000 the first year of operation.
- Completed construction and began operating Insect and Disease Laboratory.
- Produced over \$777,000 in receipts from state forests.
- Assisted other state agencies in sale of over \$90,000 worth of timber.
- 527 acres of state forest and other state lands were reforested.



Administration and supervision of Forestry Commission programs is accomplished by organizing the forty-six counties into a Coastal Region with four districts and a Piedmont Region with three districts. Operations are supervised by a regional forester for each region and seven district foresters.

The state forests are supervised by two forest directors and a regional forester.

Each nursery and seed orchard has a supervisor for the facility.

## ADMINISTRATION DIVISION

The Division of Administration supports the Forestry Commission's employees and programs through policies and procedures relating to budgeting, accounting and personnel services.

### PERSONNEL SECTION

The Personnel Section administers personnel management programs and policies for the Forestry Commission. Major program areas are classification and compensation, personnel and position records management, recruitment, employee benefits, affirmative action, safety and health, and employee benefits.

#### Workforce

The South Carolina Forestry Commission has a total of 605 authorized positions classified in 53 separate job categories. Budget reductions caused the elimination of 31 positions during the year.

#### Personnel Turnover

An analysis of employee termination data reveals that 47 employees left their jobs during the fiscal year. 22 new employees were hired.

The termination reasons were as follows:

<i>Reason</i>	<i>Number</i>	<i>Reason</i>	<i>Number</i>
Returned to School	2	Resigned, Mediocre Work	1
Better Pay — Non State	2	Ill Health	1
Better Opportunity — Non State	2	Unsatisfactory Work	5
Better Working Conditions	3	Violation of Rules	3
Going Into Business	2	Full Retirement	12
Different Job With State	1	Disability Retirement	4
Moved Out of Job Area	1	Personal	6
Termination of Temporary Job	2		

#### Safety

Most Commission personnel work in positions having a higher than normal risk of injury. The safety program is directed toward reducing this risk. It includes specialized training on hazardous operations, installing guards and protective devices on equipment, and providing personal protective equipment such as hard hats and goggles where needed. In addition, safety is stressed by supervisors in regular personnel meetings. Even with these precautions, there were 42 job related injuries reported this fiscal year. Most of these were minor with only 6 resulting in hospitalization. A total of 285 work days were lost due to accidental injuries.



Motor vehicle accidents decreased from the preceding year with three accidents occurring. Two of these were classified as being preventable by the operator.

### **Affirmative Action**

Affirmative Action is emphasized throughout the year. A revised Affirmative Action Plan was approved by the South Carolina Human Affairs Commission.

### **Employee Relations**

A new performance appraisal procedure was developed under the guidelines of the State Personnel Division's Employee Performance Management System. All personnel received orientation on the EPMS procedure and supervisory personnel were trained in the use of the new procedure.

One grievance was defended before the State Employee Grievance Committee. It was decided in favor of the Forestry Commission. There was also one grievance initiated under internal grievance procedures. This appeal was abandoned by the employee after completion of the first step.

### **Health**

Forestry Commission employees in the Columbia area participated in several programs through Carolina Healthstyle, the state sponsored wellness program. The programs, which were conducted during lunch hours, included nutrition, weight control, health risk appraisal, stress management and exercise promotion.

**FINANCIAL STATEMENT**  
**S. C. FORESTRY COMMISSION**  
**Fiscal Year 1982-83**

**BROUGHT FORWARD**

From Fiscal Year 1981-82		
Sandhills Forest Federal .....	375,872.36	
Federal .....	51,007.80	
Savings Bond Deductions .....	230.96	
Operating Revenue .....	<u>7,871.11</u>	
Total Brought Forward .....		<u>434,982.23</u>

**RECEIPTS**

Appropriations .....		10,095,270.53
Federal Funds		
Federal Grants .....	1,035,001.50	
Sandhills Forest .....	<u>478,379.30</u>	
Total Federal Funds .....		<u>1,513,380.80</u>

**Other Funds**

Manchester: Hunting, Fishing Permits ....	3,667.50	
Fuelwood .....	7,699.90	
Land Rental .....	30,553.44	
Sale of Services .....	6,417.38	
Sale of Timber .....	7,000.00	
Forest Products Assessment .....	471,957.34	
Miscellaneous Receipts .....	<u>1,298.19</u>	
Total Other Funds .....		<u>528,593.75</u>

**Trusts Funds**

Sale of Containerized Seedlings .....	4,659.00	
Savings Bond Deductions .....	<u>5,702.50</u>	
Total Trust Funds .....		<u>10,361.50</u>
Capital Bonds .....		<u>57,806.32</u>

**General Fund**

Equipment Rent .....	13,079.50	
Firebreak Plowing .....	40,034.95	
Prescribed Burning .....	26,541.50	
Nursery & Timber Sales .....	775,289.35	
Timber Marking .....	17,590.42	
Sale of Services .....	500.00	
Indirect Costs .....	68,755.48	
Sale of Firearms .....	180.00	
Land Rental .....	16,721.06	
Miscellaneous Receipts .....	<u>50.25</u>	
Total General Fund .....		<u>958,742.51</u>
GRAND TOTAL		
FUNDS AVAILABLE .....		<u>13,599,137.64</u>

## DISBURSEMENTS:

Transferred to the General Fund .....	958,742.51	
Appropriation Lapse to the General Fund .....	39,125.75	
Expenditures .....	<u>11,801,127.14</u>	
Total Disbursements .....		<u>12,798,995.40</u>
BALANCE CARRIED FORWARD .....		<u><u>800,142.24</u></u>

## Breakdown Of Balance Carried Forward

Federal .....	2,004.66
Sandhills Forest .....	403,824.86
Savings Bond Deductions .....	60.96
Operating Revenue .....	38,264.77
Seedling Revolving .....	574.65
Forest Renewal Assessment .....	<u>355,412.34</u>
TOTAL .....	<u><u>800,142.24</u></u>



## ENGINEERING & LOGISTICS DIVISION

The Engineering and Logistics Division provides staff service to all units of the Forestry Commission in matters relating to communications, purchasing, transportation of supplies and equipment, maintenance of equipment and permanent improvements, new construction, and property accountability.

### Radio Communications

The Forestry Commission's two-way radio communication system continued to perform satisfactorily throughout the fiscal year even though much of the equipment has been in service for a long number of years. Six radio technicians assigned to the district headquarters handled the installation and maintenance activities of the Commission's radio communication program at the district and county level.

Careful planning and selection of radio equipment in past years has resulted in an efficient and dependable radio system. Perhaps the most notable aspect of this system is the tractor mounted radio set. These sets contribute greatly to the effectiveness of the fire control program and safety of wardens on the fire line. Although these sets have been in use between twelve and twenty years, they still provide dependable communications.

In September 1982, a radio station at Coastal Nursery was installed, giving this nursery instant and economical communications with Columbia, Tilghman Nursery and the District Offices.

A program is under way to install complete radio systems in all aircraft of the Forestry Commission. Four aircraft have systems in place. These aircraft are equipped to communicate with fire fighting units on the ground, aerial tankers, and with airport towers. The systems also include navigation receiver and transponders.

Communication equipment has been purchased, modified, and installed in Spartanburg County to give that county unit a cooperative communication link with the County Fire Department. This is a part of the Spartanburg Rural Fire Study Project.

### Mechanized Equipment

During the year central shop personnel made numerous repairs to Forestry Commission vehicles and equipment and manufactured many special fire control and forest management items. Some of the work conducted at the central shop included:

- modification of transport bodies;
- repair of medium tractors for field use;

- rebuilt fire plows;
- modified safety canopies;
- modified and repaired specialized equipment for use in aerial tanker program;
- rebuilt wrecked equipment;
- provided maintenance assistance to the district repair shops;
- performed major equipment overhauls and repairs on field equipment;
- rebuilt a tree seedling lifter for use in the nursery program;
- began plans to build an additional lifter to be available for use in the early fall of 1983.

### Equipment Replacement

No mechanized fire control replacement equipment has been purchased for the past four years. As a result, many units of the state equipment fleet have reached an age and condition where reliability of performance during prolonged adverse fire periods is questionable. Fiscal year 1982-83 was one of the lightest fire years on record. Accordingly, this was not a good equipment performance test period. The degree and extent of fire seasons are governed largely by fire weather and thus varies from year to year. The real test will come when an extremely adverse year is experienced. At that point in time the reliability and dependability of fire control mechanized equipment is uncertain. As the equipment becomes older, maintenance costs accelerate and the efficient and economical replacement schedule is disrupted.

Following is a summary of fire control transports/tractor replacement purchases for the last ten years:

<i>Year</i>	<i>Number</i>
1974-75	28 Units *
1975-76	30 Units
1976-77	25 Units
1977-78	12 Units
1978-79	14 Units
1979-80	11 Units
1980-81	1 Unit
1981-82	0 Units
1982-83	0 Units
1983-84	0 Units

\* Unit — 1 Truck and 1 Tractor



### **Purchasing And Property Accountability**

The purchasing section supervises Commission purchasing and maintains accountability for all equipment and property of the Commission. It coordinates requests for and prepares specifications for the purchase of all Forestry Commission equipment and supplies. During the year sixteen hundred twenty one purchase orders were issued. Approximately 6,500 fixed assets record of accountability have been established and will be maintained. Recommendations were made for the maintenance and disposal of equipment.

### **Construction And Maintenance**

During the year Forestry Commission personnel designed, planned, purchased materials, and scheduled work crews to conduct maintenance and construction of capital improvements at substantial cost savings. Major projects included:

- completion of a six-office forest insect and disease facility with fully equipped laboratory to identify and diagnose insect and disease related problems.
- cleared and prepared site on twenty-four acres of new ground at Taylor Tree Nursery and installed a surface irrigation system.
- constructed a new equipment shed at Taylor Nursery.
- replaced a deteriorated underground irrigation system at Piedmont Nursery approximately nineteen acres.
- constructed two containerized seedling greenhouses at Creech Seed Orchard, fully equipped with watering, heating-cooling and timing devices.
- purchased Big Knob Tower site in Laurens County.
- began plans to construct a new office-shop complex for the Walterboro District headquarters. Fourteen acres of land were purchased from the Walterboro Airport Commission and an architect was employed to draw up plans. Preparation of the site was started during the year. The facility is located adjacent to the airport and will provide for runways and taxi strips for use of the Commissions' observer aircraft and air tanker program.



## FIELD OPERATIONS DIVISION

The Field Operations Division provides operational and technical staff direction to the Forestry Commission field organization in each of the major program areas of forest management, forest fire protection, nurseries and tree improvement, information and education, forest insects and diseases and overall agency training.

### FOREST MANAGEMENT SECTION

The Forest Management Section assists South Carolina citizens with management and development of the forest resources of the state. Programs include Woodland Management Assistance, Reforestation Programs, Forestry Services, Forest Products Utilization and Marketing Assistance, Resource Conservation and Development, Watersheds, and Urban Forestry. These programs assist owners in growing more timber, aid industries in more efficient utilization of the timber resource, and foster conservation of the forest resource.

There are 12.5 million acres of forest land in South Carolina. According to the 1978 US Forest Service Survey, 73% of the land is owned by farmers and miscellaneous private landowners. Industry owns approximately 18% with 9% in public ownership.

Each year approximately 200 thousand acres of forests are harvested. Of this total, about 161 thousand acres are regenerated adequately, either naturally or by planting. Approximately 39,000 acres are left with little or no merchantable tree species.

### Woodland Management Assistance

Professional foresters provide forest management advice and assistance to any landowner in the state. The land is examined and a written forest management plan is prepared. Recommendations for management may include forest protection, reforestation, harvesting, prescribed burning, wildlife habitat improvement, and recreation. This year 2,641 management plans were prepared for 179,198 acres of woodland.

Where practical, the landowner is referred to consulting or industrial foresters to assist in carrying out the management recommendations. This year 475 cases were referred to consulting foresters with 336 cases referred to industrial foresters.

Forestry commission foresters provide timber marking services to landowners on a limited basis. For this service there is a charge of \$2 per thousand board feet of timber and \$.35 per cord of wood. This year 183 tracts were marked, with 5,200,117 board feet of sawtimber and 14,963

cords of pulpwood designated for cutting. For this service landowners paid \$17,590.42.

Prescribed burning plans are also prepared for landowners who require this service. Fire as a forest management tool is recommended for control of weed trees, seedbed preparation, control of brown spot disease in longleaf pines, reduction of hazardous fuels, and improved wildlife habitat.

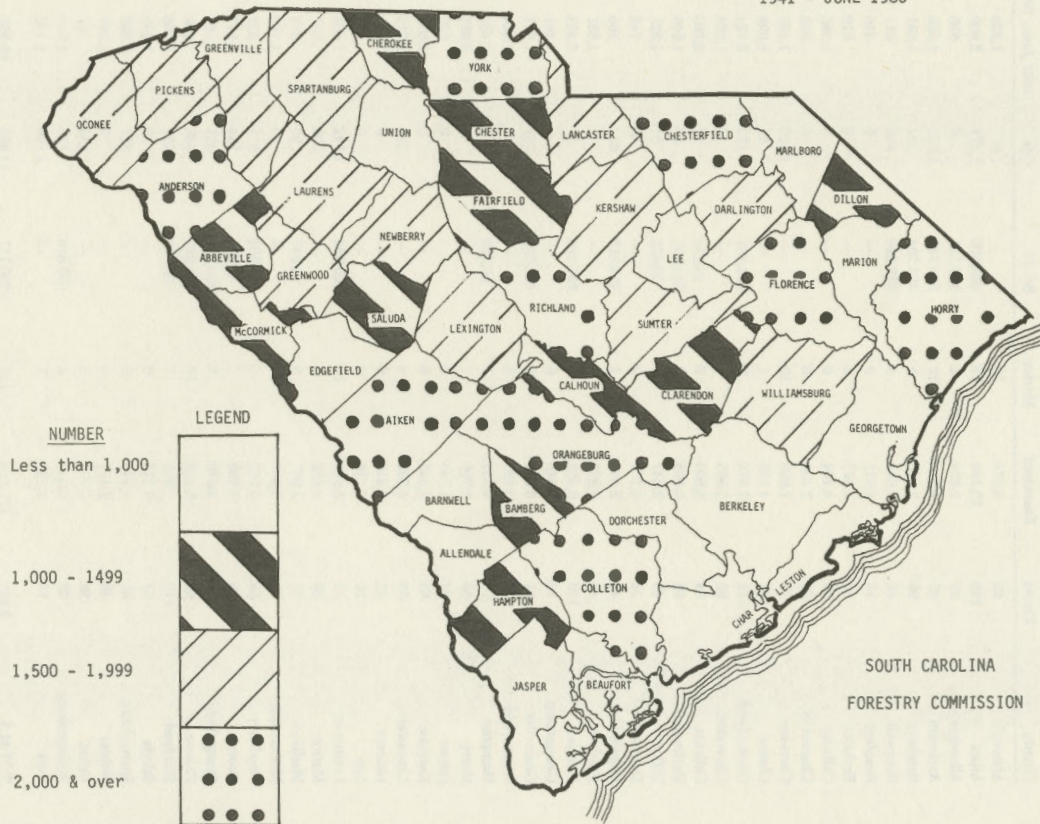
# WOODLAND MANAGEMENT ASSISTANCE 1982-83

County	Woodland Exams	Acres Examined	Tracts Marked	Volume Marked Bd. Ft.	Cds.	Total Woodland Examinations 1941-June, 1982
Abbeville	66	3,874	10		817	1,320
Aiken	140	15,196	10	858,375	1,471	2,600
Allendale	27	1,824	1	139,331	0	595
Anderson	95	4,710	22	510,780	1,502	2,605
Bamberg	39	2,435	5	434,294	324	1,021
Barnwell	42	2,624	8	373,320	840	911
Beaufort	16	1,621	0	—	0	446
Berkeley	40	2,927	0	—	0	610
Calhoun	88	4,164	0	—	0	1,360
Charleston	27	2,453	0	—	0	562
Cherokee	37	1,660	10	—	1,129	1,105
Chester	41	4,160	1	—	62	1,098
Chesterfield	112	7,579	9	162,197	757	2,124
Clarendon	62	5,993	0	—	0	1,224
Colleton	64	3,693	2	10,234	17	2,269
Darlington	62	3,576	3	311,567	50	1,699
Dillon	49	2,647	1	70,421	61	1,321
Dorchester	22	1,771	0	—	0	718
Edgefield	48	2,983	2	168,513	281	766
Fairfield	98	7,979	0	—	0	1,331
Florence	100	3,652	6	537,210	67	2,433
Georgetown	19	1,849	0	—	0	481
Greenville	61	3,387	10	162,394	731	1,521
Greenwood	50	4,894	0	—	0	1,624
Hampton	78	4,837	1	56,320	6	1,437
Horry	53	5,706	1	—	6	2,012
Jasper	22	1,745	0	—	0	542
Kershaw	60	3,445	0	—	0	1,634
Lancaster	58	3,299	4	—	271	1,613
Laurens	42	5,415	0	—	0	1,538
Lee	19	1,116	0	—	0	985
Lexington	57	3,815	14	129,383	1,142	1,969
Marion	32	1,812	2	—	650	641
Marlboro	38	2,957	3	32,647	98	973
McCormick	30	3,344	0	—	0	1,180
Newberry	56	3,749	1	164,504	617	1,631
Oconee	63	4,589	7	61,808	134	1,817
Orangeburg	109	4,645	8	508,599	321	3,064
Pickens	62	2,590	18	159,586	888	1,662
Richland	110	5,618	7	25,758	322	2,303
Saluda	52	3,275	0	—	0	1,248
Spartanburg	65	3,649	6	—	821	1,583
Sumter	40	2,177	0	—	0	1,569
Union	28	2,691	2	—	254	722
Williamsburg	95	6,947	2	322,876	125	1,940
York	73	4,126	7	—	1,199	2,142
TOTALS	2,641	179,198	183	5,200,117	14,963	65,949



Figure I

ACCUMULATIVE TOTALS  
WOODLAND EXAMINATIONS  
1941 - JUNE 1983



## REFORESTATION PROGRAMS

### State Program

#### *Forestry Renewal Program (FRP)*

The South Carolina legislature, recognizing the south's unique potential to supply the nation's continuing forest products needs established the Forest Renewal Program (FRP) in 1981. The program provides financial cost sharing assistance to private woodland owners in reforesting cut-over and understocked forest land. With the support of South Carolina's forest industries, the program is jointly funded through an assessment of those industries producing primary wood products and an appropriation by the South Carolina state legislature.

In 1982 the program was funded for the first time by a \$100,000 state appropriation. This permitted an assessment of \$400,000 from forest industry, and created a \$500,000 Forest Renewal Fund.

#### 1982-83 Forest Renewal Program Accomplishments

<i>Practices</i>	<i>Applications (Number)</i>		<i>Acres</i>		<i>Dollars</i>	
	<i>Approved</i>	<i>Completed</i>	<i>Approved</i>	<i>Completed</i>	<i>Fund Obligated</i>	<i>Funds Paid Out</i>
Bare Land Planting .	33	23	655	475	17,712	12,845
Site Preparation and Planting . . . . .	133	62	4,923	2,184	438,453	181,463
Timber Stand Improvement . . . . .	1		86		3,870	
Hardwood Natural Regeneration . . . . .	3		192		8,640	
TOTALS . . . . .	170	85	5,856	2,659	468,675	194,308

### Federal Programs

#### *Forestry Incentive Program (FIP)*

#### *Agricultural Conservation Program (ACP)*

These cost share programs are administered by the Agricultural Conservation Stabilization and Conservation Service (ASCS). The forestry commission provides technical forestry assistance to landowners and approves qualifying acreage. The programs provide up to 65% reimbursement to carry out approved forestry practices for reforestation of woodlands or forest improvement practices.

Since 1974 \$9,125,940 have been allocated to South Carolina landowners under FIP. Through June 30, 1983, landowners have been paid \$8,001,241, with the balance obligated and held until practices are completed.

Agricultural Conservation Program (ACP) funds are available for landowners who may not qualify for costsharing under FIP guidelines. Firebreak plowing and prescribed burning were eliminated from the program this year.

### 1982-83 Forest Incentive Program (FIP) Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Cost-Share Paid Out</i>
Bare Land Planting .....	97	2,798	\$ 67,427
Replanting .....	9	324	6,104
Site Preparation & Planting .....	285	7,947	739,861
Timber Stand Improvement .....	6	336	15,120
Totals .....	397	11,405	\$828,512

### 1982-83 Agricultural Conservation Program (ACP) Accomplishments

<i>Practice</i>	<i>No. Referrals</i>	<i>Acres Completed</i>	<i>Cost-Share Paid Out</i>
Bare Land Planting .....	129	2,262	\$ 61,026
Replanting .....	80	1,132	95,221
Site Preparation & Planting .....	6	112	5,040
Timber Stand Improvement .....	4	102	1,440
Totals .....	219	3,608	\$162,727



### Summary FIP Accomplishments, 1974-1983

Fiscal Year	Bare Land Planting			Site Preparation And Planting			Timber Stand Improvement			Prescribed Burning			Firebreak Construction			Allocation	Cost-Share Paid Out
	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Acres	Dollars	No. Cases	Feet	Dollars		
1973-74				MONEY NOT RECEIVED UNTIL APRIL 1, 1974. NO ACCOMPLISHMENTS COMPLETED												\$ 468,000	\$ 0
1974-75	82	1,848	30,397	212	5,941	335,862	12	291	3,480	10	887	666	18	186,225	984	629,000	371,689
1975-76	81	1,668	37,056	254	6,378	376,447	3	80	960	24	1,670	1,252	23	254,000	712	939,000	416,000
1976-77	105	2,354	46,657	305	8,786	537,439	5	118	1,416	9	682	512	12	98,675	238	1,087,940	586,262
1977-78	147	3,782	74,315	443	14,797	888,335	6	179	3,912	2	320	240	1	5,000	10	1,116,000	966,812
1978-79	123	3,338	65,002	422	15,592	1,095,012	2	55	1,650	Not Covered Under Program						1,040,000	1,095,379
1979-80	130	3,089	61,932	732	16,195	1,136,644	9	129	5,068							1,025,000	1,203,651
1980-81	212	5,577	123,933	590	19,534	1,540,638	13	526	22,705							862,000	1,684,156
1981-82	143	4,722	116,016	291	9,471	724,754	6	355	8,010							919,000	848,780
1982-83	106	3,122	73,531	285	7,947	739,861	6	336	15,120							1,040,000	828,512
TOTALS	1,129	29,500	628,839	3,534	104,641	7,374,992	62	2,069	63,321	45	3,559	2,670	54	543,900	1,944	9,125,940	8,001,241

### Forest Services

Through this program the commission provides landowners forestry services to assist in afforestation, reforestation, and to maximize production from their woodland. For these services the landowner is charged the cost of performing the service.

The following services were available to landowners during the year:

- Firebreak Plowing — performed by forestry commission employees using agency equipment for \$25 per hour.
- Prescribed Burning — performed by forestry commission employees using agency equipment under approved plan for \$3 per acre.
- Prescribed Burning Standby — an agency unit and employee on standby at burning site while landowner performs burning under an approved burning plan for \$7 per hour.
- Equipment Rental Program — agency owned tree planters, bedding plows, drum chopper, and disc harrow made available to private landowners for use in reforestation at rates from \$2 to \$10 per acre.

### Forest Services Accomplishments

<i>Service</i>	<i># Tracts</i>	<i>Miles-Acres</i>	<i>Receipts</i>
Firebreak Plowing . . . . .	485	1,445 mi.	\$39,232
Prescribed Burning . . . . .	151	10,285 ac.	\$24,001
Prescribed Burning Standby . . . .	29	2,598 ac.	\$ 2,133
Equipment Rental . . . . .	80	3,226 ac.	\$13,376
Totals . . . . .	745	1,445 mi 16,109 ac.	\$78,742

### Forest Products Utilization and Marketing

#### *Pine Sawtimber and Pulpwood Prices*

Sawtimber prices increased over the previous year. Prices were low during the first part of the year, increasing dramatically during the latter part. Some pine sales were noted as being over \$200 per MBF. This was due to lowered inflation rate and stabilizing interest rates. Many mills that were temporarily closed or slowed down the previous year resumed normal operation. Pulpwood prices remained fairly stable showing some increase.

### Sawtimber & Pulpwood Stumpage Prices for South Carolina\*

<i>Fiscal Year</i>	<i>Weighted Average Price Per Thousand Board Feet Scribner Tree Scale</i>	<i>Weighted Average Price Per Standard Cord</i>
1978-79 .....	127.13	11.46
1979-80 .....	138.08	12.71
1980-81 .....	117.76	13.58
1981-82 .....	138.80	15.18
1982-83 .....	141.51	16.03

\* Sales of timber marked by Commission Foresters on private property

#### *Commodity Drain*

During the year information was gathered from all primary wood using industries for a commodity drain report. The report issued in 1982 for the calendar year 1981 showed 3,485,282 cords and 1,025,020,000 board feet (International Rule) of timber harvested in South Carolina with a delivered value of over 353 million dollars.

#### *Industry Assistance*

The forestry commission continued to provide direct assistance to the wood using industries to "stretch" the state timber supply. These programs include logging and log yard analysis, sawmill improvement, roughmill improvement, improved drying techniques and wood energy.

#### *Interim Forest Survey*

During March 1983 personnel of the Forestry Commission, forest industry representatives, and the US Forest Service Southeast Experiment Station at Asheville, NC met in Columbia to discuss the possibility of an interim survey of the pine resource of South Carolina. This meeting resulted in an interim survey being planned, and actual work began on May 16, 1983. Results of the survey will not be available until late in 1983.

#### *Miscellaneous Assistance*

Commission personnel handled over 168 miscellaneous utilization, marketing, and wood energy requests during the year.

### Resource Conservation and Development

#### *Low Country Resource Conservation and Development Project*

The Lowcountry Resource Conservation and Development (RC&D) project is initiated and sponsored by citizens of Beaufort, Berkeley, Charleston, Colleton, Dorchester, Hampton, and Jasper Counties.



Federal, state and local governments work with industry and others on proposals that local citizens consider beneficial to the area. The RC&D objective is to increase economic opportunities through the orderly development, conservation and improvement of all resources including land, water, wildlife, and woodlands. This project is in its fifteenth year of operation.

One forester is assigned to work full time in this project area. He concentrates on utilization, marketing, environmental education and all phases of forest management programs including urban forestry.

Some of the major accomplishments of the Lowcountry RC&D forester this past year includes

- Urban Forestry Workshop for South Carolina Architects
- Project Learning Tree Workshops in Summerville, Walterboro, and Charleston.
- Federal Forest Tax Workshops in Charleston and Hampton
- Prescribed Burning School in Charleston
- Forest Interim survey for Orangeburg County
- Commodity Drain Survey
- Wetland Drainage Study
- Talks, radio and television programs
- Attend RC&D workshop in Alabama
- Attend National Urban Forestry Convention in Ohio

#### *Ninety Six District Resource Conservation and Development Project*

The Ninety Six District Resource Conservation and Development Project consists of Abbeville, Edgefield, Greenwood, Laurens, McCormick and Saluda Counties. This project was initiated and sponsored by local citizens, federal, state, and local governments. They are working together with others on proposals the local citizens consider necessary to develop a better way of life for the people in the area by conserving and developing our natural resources.

The primary objective of this project is to assist landowners, local units of government, and all other agencies by providing guidance in land use planning, promoting multiple use of the forest, showing ways to increase production and providing more employment opportunities, and to protect the forest from fire and erosion through control measures.

One forester is assigned to work full time on this project area. He concentrates on utilization, marketing, environmental education, and all phases of forest management.

Major accomplishments for the year include

- Woodland Clinic for Vocational Agriculture students
- Christmas Tree production promotion

- Farm forestry equipment workshop
- Beaver survey to determine population and extent of damage to woodland
- Project Learning Tree for teachers
- Forest Taxation Workshop for landowners
- Promotion of Tree Farm System including adding 26 new tree farmers in the project area
- Forest Interim survey in Laurens County
- Talks, radio and television programs

### Watersheds

A program to help control water runoff on the small watersheds and to protect bottomlands along the smaller streams from overflow was initiated some years ago through Public Law 566. In previous years Forestry Commission personnel have provided needed forestry assistance under agreement with the US Forest Service on 36 watersheds. The forestry input into all watersheds under this program was completed in 1982. Preliminary surveys of new watersheds have been done but none of these potential watersheds have been activated. Forestry Commission personnel will continue to assist in these watershed reviews and provide technical assistance as needed.

### Urban Forestry

Urban foresters work with private businesses, planners, governmental agencies, and the general public for the care, protection and wise use of our urban forests. The urban forester serves as the expert in planning and training for tree establishment and care including special programs such as Arbor Day.

Accomplishments for the Columbia metropolitan project include

• Assists to individuals and agencies .....	414
• Tree Expert referrals .....	55
• Woodland examinations .....	2
• Timber marking assistance .....	40c
• News Releases, Radio, Television .....	2
• Garden, Civic Club Programs .....	51

Tree City USA recognition is a program of the National Arbor Day Foundation of Nebraska. It is an important promotor of Urban Forestry which has been well received in South Carolina. During the year eight cities were recognized. They are Cheraw, Columbia, Florence, Marion, Charleston, Spartanburg, Summerville, and Greenville.

The cities received a walnut plaque, a Tree City USA flag and signs to place at city limits. The standards for recognition include: a legally



constituted municipal tree body, a tree ordinance, a comprehensive community forestry program supported by a minimum of \$1 per capita, and an Arbor Day Observance.

## **FOREST FIRE PROTECTION SECTION**

The South Carolina Forestry Commission is charged by state law with the responsibility of protecting all privately owned and state owned woodland from wildfire. At present, there are 12,031,090 acres of woodland under protection. Additionally 548,724 acres of national forestlands are under the protection of the U. S. Forest Service with another 280,101 acres of woodland owned and protected by other federal agencies.

A formal agreement between the South Carolina Forestry Commission and the U. S. Forest Service provides for mutual aid in regard to fire detection and suppression along national forest boundaries.

### **Southeastern States**

#### **Forest Fire Compact Commission**

The 1954 General Assembly passed legislation enabling South Carolina to join with nine (9) other southeastern states to form a Forest Fire Compact Commission. Other states belonging to the Commission are: Alabama, Georgia, Florida, Kentucky, Mississippi, North Carolina, Tennessee, Virginia, and West Virginia. The membership of the Commission for each state is composed of a Compact Administrator (the State Forester), and a four-member Advisory Committee. The Advisory Committee for South Carolina consists of: Leonard A. Kilian, Jr., State Forester; Senator L. Marion Gressette, Calhoun County; Representative Marion P. Carnell, Ware Shoals; and two members, Mr. Harold Lott of Blackville, and Mr. Archer Smith of Eastover, at large.

The twenty-ninth annual meeting of the Southeastern States Forest Fire Compact Commission (SSFFCC) was held on May 24, 1983 at Biloxi, Mississippi. Several working committees were established to improve the effectiveness of the Compact.

### **Southern States Fire Chiefs Meeting**

The annual meeting of the Southern Fire Chiefs was held in Biloxi, Mississippi on May 24, 1983. Discussion topics were fireline safety, economic planning, National Interagency Incident Management System, fire prevention, fire weather forecasting, communication and the National Wildfire Coordinating Group.



### **S. C. Disaster Preparedness Agency (Civil Defense)**

On April 6, 1973, an act was signed by the Governor providing for Civil Defense and Disaster Control in South Carolina. This act set up an agency to be designated as the South Carolina Disaster Preparedness Agency (formerly Civil Defense).

The South Carolina Forestry Commission maintains contact with the S. C. Disaster Preparedness Agency and cooperates closely with them on matters concerning all emergencies and natural disasters.

### **Rural Fire Protection**

#### *Fire Protection — Title IV*

The Rural Development Act of 1972, Title IV (Public Law 92-419), as amended, by the Food and Agriculture Act of 1977 (Public Law 95-113), authorized the Secretary of Agriculture to develop a Rural Community Fire Protection Program. This program applies to rural communities throughout the United States and was established to provide financial and technical assistance for organizing, training, and equipping local fire fighting forces in communities under 10,000 population. Qualifying fire departments have been able to apply for funds under this program on a 50-50 matching basis. Funds are utilized for fire hose, protective clothing, communications equipment, and breathing apparatus. Funding for fiscal year 1982-83 was set at \$47,600, providing assistance to 94 departments.

#### *Excess Equipment*

Excess federal equipment, loaned to the Forestry Commission by the U. S. Forest Service, is provided to qualifying rural fire departments for conversion to useful pieces of fire fighting equipment. The department receiving this equipment agrees to paint, maintain, and insure it and to respond to calls by the Forestry Commission. All equipment is returned to the Forestry Commission when no longer needed by the department.

Since the Cooperative Rural Fire Program began in January of 1976, 287 vehicles and other miscellaneous tanks and spray equipment have been loaned to 195 rural fire departments in South Carolina. At present 167 departments have in use 261 pieces of excess property equipment. During fiscal year 1982-83, rural fire departments were issued 21 pieces of excess property equipment.

### **Weather**

#### *Fire Weather Forecast*

Beginning July 1965, regular and special fire weather forecasts have been available to the S. C. Forestry Commission, other agencies, and individuals through the National Weather Service.

Throughout the fire season, fire weather forecasts are received twice daily by the Forestry Commission. These forecasts are relayed to all Forestry Commission field offices as well as other forestry interests. Special forecasts are available upon request for areas with large going fires and during periods of extreme fire danger.

#### *Weather Stations*

A fire weather station is located in each district. The information obtained from these stations is used in the National Fire Danger Rating System. Weather data as well as Fire Danger indices are disseminated daily to all fire control personnel. Forestry Commission weather stations also furnish special information to the South Carolina Fire Weather Forecaster to assist with general forecasting.

#### *Precipitation*

Precipitation in South Carolina during 1982-83 averaged 51.69 inches as recorded by NOAA and the South Carolina State Climate office. This was 3.37 inches above the State's annual average of 48.32 inches.

#### **Average precipitation by months**

<i>Month</i>	<i>Rainfall (Inches)</i>	<i>Departure from Normal (Inches)</i>
July 1982 .....	5.73	-0.17
August 1982 .....	3.55	-1.63
September 1982 .....	3.21	-1.16
October 1982 .....	3.10	+0.22
November 1982 .....	2.45	-0.20
December 1982 .....	4.94	+1.45
January 1983 .....	4.35	+0.82
February 1983 .....	5.70	+1.92
March 1983 .....	8.37	+3.53
April 1983 .....	4.64	+1.08
May 1983 .....	2.13	-1.42
June 1983 .....	<u>3.52</u>	<u>-1.07</u>
Total .....	51.69	+3.37

### Five-year summary of precipitation

<i>Fiscal Year</i>	<i>Rainfall (Inches)</i>	<i>Departure from Normal (Inches)</i>
1978-79 .....	57.48	+ 9.16
1979-80 .....	59.03	+ 10.71
1980-81 .....	41.30	- 7.02
1981-82 .....	56.74	+ 8.42
1982-83 .....	<u>51.69</u>	<u>+ 3.37</u>
Average .....	53.25	+ 4.93

### Readiness Plan

Initiated in the fall of 1982, the Commission's Readiness Plan System considers the influence of weather and fuel conditions on fire behavior (NFDRS indices), the chance of a fire starting, and the capability of the Fire Control Organization at any given time. Readiness plans give guidance in work planning and fire control activities. This allows the Commission to perform all of its many functions while at the same time meet its fire control responsibilities. Readiness Plans are on a scale of 1-7 with 1 being the lowest state of readiness (all time devoted to non-fire suppression activities) and 7 the highest (all personnel engaged in or on call for fire suppression duties).

During the 1982-83 fiscal year, "Readiness Days" were as follows:

Number of Readiness 1 Days —	157
Number of Readiness 2 Days —	142
Number of Readiness 3 Days —	50
Number of Readiness 4 Days —	16
Number of Readiness 5 Days —	0
Number of Readiness 6 Days —	0
Number of Readiness 7 Days —	0

### Smoke Management

In the spring of 1980, Voluntary Smoke Management Guidelines for Forestry Prescribed Burning Operations were adopted. This statewide program was developed by a committee of the S. C. Forestry Association in cooperation with the S. C. Forestry Commission.

The objective of the program is to minimize particulate concentrations of smoke in smoke sensitive areas resulting from forestry prescribed burning operations by defining those days and volumes of vegetative debris that may be burned.



During this third year of the program, 1,171 prescribed burns on 148,391 acres were carried out under the Voluntary Smoke Management Guidelines.

### Legal Fires

Legal fires are forest fires which are authorized by the landowner, started by him or his authorized agent and burn entirely upon his land. Individual landowners reported 4,349 fires that burned an estimated 386,250 acres for various purposes during 1982-83.

District	Hazard Reduction Hardwood Control		Wildlife Improvement		Grazing		Site Preparation		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Camden .....	214	29,078	49	11,746	136	10,198	38	2,284	437	53,306
Florence .....	137	9,306	—	—	1	30	54	4,107	192	13,443
Kingstree .....	741	57,747	91	15,970	25	778	123	9,571	980	84,066
Newberry .....	147	14,728	13	884	1	10	138	11,262	299	26,884
Orangeburg .....	310	21,175	43	7,460	—	—	96	5,388	449	34,023
Spartanburg .....	6	450	—	—	—	—	16	1,610	22	2,060
Walterboro .....	1,200	123,465	284	34,463	119	5,020	367	9,520	1,970	172,468
Total .....	2,755	255,949	480	70,523	282	16,036	832	43,742	4,349	386,250

### Law Enforcement

#### Law Enforcement Officers

The Forestry Commission has 76 Forest Law Enforcement Officers. They are commissioned by the Forestry Commission under statute authority of the 1982 General Assembly. The Forest Law Enforcement Officer has statewide jurisdiction for the enforcement of forestry laws of the state and the duly enacted regulations of the Commission. All Forest Law Enforcement Officers are trained by the Criminal Justice Academy prior to being commissioned and in-service training is given annually to keep officers up-to-date on changes that occur. In carrying out its law enforcement responsibilities, the Forestry Commission works closely with other state and local law enforcement agencies.

#### Summons Law

The use of a Summons by Forest Law Enforcement Officers has been very beneficial to the Forestry Commission in carrying out the law enforcement program during the year. The legislature authorized the use of a special official summons in 1982 for the Forestry Commission.

**STATE SUMMARY**  
**LAW ENFORCEMENT INFORMATION**  
**Fiscal Year 1982-83**

	Camden	Florence	Kingstree	Newberry	Orangeburg	Spartanburg	Walterboro	State Total
<b>PART A. NO. OF VIOLATIONS</b>								
1. Willful and Malicious	19	2	0	2	10	18	2	53
2. Intentional	152	173	392	26	225	11	334	1,313
3. Careless and Negligent	128	124	114	80	228	135	113	922
4. Other Violations	0	0	0	1	0	0	0	1
5. Total Violations (1-4)	299	299	506	109	463	164	449	2,289
6. Notification Violation	20	7	12	6	22	0	11	78
7. Total All Violations (5 & 6)	319	306	518	115	485	164	460	2,367
8. No Fire Law Violations	93	150	23	150	250	78	49	793
<b>PART B. NO. OF PROSECUTIONS</b>								
1. Willful and Malicious	—	—	—	—	—	—	—	—
2. Intentional	—	—	—	—	—	—	—	—
3. Careless & Negligent	1	4	1	4	8	2	—	20
4. Notification Law	3	6	3	3	5	1	1	22
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	4	10	4	7	13	3	1	42
<b>PART C. NO. OF CONVICTIONS</b>								
1. Willful and Malicious	—	—	—	—	—	—	—	—
2. Intentional	—	—	—	—	—	—	—	—
3. Careless and Negligent	1	4	1	4	8	2	—	20
4. Notification Law	3	6	3	3	5	1	1	22
5. Other Violations	—	—	—	—	—	—	—	—
6. Total	4	10	4	7	13	3	1	42

***Burning Notification Law***

On June 24, 1969 the Governor signed a statewide Notification of Intent to Burn Law for South Carolina. This statewide law repealed burning permit laws in eight counties and burning notification laws in twenty-six counties which had been passed on a county-by-county basis. The State Forester may direct that fires covered in the Notification Act not be started when deemed necessary in the interest of public safety. Burning notifications totaled 56,492 during this fiscal year.

**ANNUAL BURNING NOTIFICATION SUMMARY**  
**Fiscal Year 1982-83**

<i>County</i>	<i>Number Notifications Received</i>	<i>Number Fires Escaped</i>	<i>Number Technical Violations</i>	<i>Number Prosecutions</i>	<i>Number Convictions</i>
Abbeville	984	1	1	—	—
Aiken	6,607	26	4	—	—
Allendale	359	1	—	1	1
Anderson	854	1	14	1	1
Bamberg	577	2	1	—	—
Barnwell	1,155	7	1	1	1
Beaufort	2,387	4	12	—	—
Berkeley	1,654	—	—	—	—
Calhoun	431	3	3	1	1
Charleston	1,553	7	—	—	—
Cherokee	748	1	19	—	—
Chester	371	3	—	—	—
Chesterfield	1,287	7	4	—	—
Clarendon	861	3	5	—	—
Colleton	2,796	20	14	1	1
Darlington	362	3	—	—	—
Dillon	411	1	—	—	—
Dorchester	725	2	3	—	—
Edgefield	433	3	—	—	—
Fairfield	1,579	15	3	3	3
Florence	652	—	—	—	—
Georgetown	1,840	7	3	3	3
Greenville	3,230	3	4	—	—
Greenwood	1,147	2	1	—	—
Hampton	1,460	6	1	—	—
Horry	1,075	3	—	6	6
Jasper	866	2	—	—	—
Kershaw	2,372	5	—	3	3
Lancaster	410	1	14	—	—
Laurens	593	2	3	—	—
Lee	298	2	25	—	—
Lexington	5,757	17	2	1	1
Marion	498	1	—	—	—
Marlboro	661	2	—	—	—
McCormick	155	2	—	—	—
Newberry	605	1	—	—	—
Oconee	1,252	2	1	—	—
Orangeburg	912	7	—	1	1
Pickens	926	2	—	—	—
Richland	642	—	—	—	—
Saluda	223	—	—	—	—
Spartanburg	827	—	—	—	—
Sumter	1,162	1	35	—	—
Union	124	—	1	—	—
Williamsburg	850	3	—	—	—
York	1,821	5	1	—	—
Totals	56,492	186	175	22	22



## Fire Detection

### *Fire Towers*

Basic forest fire detection is accomplished by the interlocking network of 132 forest fire lookout towers. These towers are strategically located so each tower's normal range of visibility overlaps with adjoining towers. With overlapping coverage, smokes and suspected wildfires can be observed, located and checked out.

### *Aerial Detection*

Forestry Commission aircraft are used to separate legal burning from forest fires, to help ground crews find the best way into a fire area, to warn of danger, aid in fire suppression, and other uses.

During 1982-83, the Forestry Commission operated four excess property aircraft which were flown a total of 195.3 hours. Contract aircraft were utilized for a total of 8.7 hours during the same period. Total aircraft use for the year was 204.0 hours.

### SUMMARY OF AIRCRAFT USE — 1982-83

Month	Camden Hours	Florence Hours	Kingstree Hours	Newberry Hours	Orangeburg Hours	Spartanburg Hours	Walterboro Hours	Total Hours
July	—	—	—	—	—	—	1.6	1.6
August	—	—	1.0	—	—	—	1.6	2.6
September	—	—	6.5	—	—	—	3.3	9.8
October	—	—	1.0	—	—	—	4.3	5.3
November	—	—	2.4	—	—	—	3.0	5.4
December	—	—	2.4	—	—	—	3.0	5.4
January	—	—	3.2	—	—	—	3.0	6.2
February	8.0	2.9	5.2	—	7.9	—	6.2	30.2
March	9.0	11.3	22.4	—	9.1	8.7	40.0	100.5
April	2.3	2.4	5.9	—	—	—	4.1	14.7
May	2.6	5.5	2.5	—	2.6	—	4.4	17.6
June	1.0	—	—	—	0.7	—	3.0	4.7
Total	22.9	22.1	52.5	—	20.3	8.7	77.5	204.0*

\* This figure includes 8.7 hours contract aircraft and 195.3 hours Forestry Commission

## Aerial Retardant Delivery

### *Air Tanker Program*

The primary purpose of air tankers is to aid ground crews in the initial attack of wildfires. They are also used in areas of difficult terrain such as coastal swamps/bays and steep mountain slopes where the use of ground equipment is limited. Air tankers cannot replace ground equipment, but because of their capability to respond wherever needed quickly, they can keep a fire from spreading until ground crews arrive and complete control.

The S. C. Forestry Commission has used air tankers for retardant delivery on wildfires for the past five fiscal years. In all years, tankers

were contracted for the peak fire occurrence time in February, March and April.

Two 1,000 gallon tankers were used in fiscal year 1982-83. Tanker 101, a PV-2, was stationed at Walterboro February 18 through April 3, 1983. Tanker 104, a B-26, was stationed at Georgetown February 25 through April 10. Satellite bases were set up at Florence, Camden and Barnwell. A mobile base was located at Spartanburg.

Aerial delivery of retardants has proven to be a very effective program especially in high value stands where the potential for loss is great.

### *Helicopter Delivery Program*

In September 1982 the South Carolina Forestry Commission and the South Carolina Army National Guard completed a week of training in the use of helicopters for aerial retardant delivery. Training was given to the Guard in fire behavior, fire tactics, communication, and retardant drops. Using a 250 gallon bucket, furnished by the Forestry Commission, practice runs were made on fires set for the training exercise. To activate this program for wildfire control, the State Forester must request assistance from the Governor through the Office of Emergency Preparedness.

### **Forest Fire Suppression**

During fiscal year 1982-83 South Carolina recorded 3,160 wildfires and 9,150.5 acres burned. This includes forest and non-forest land. Fires occurring on forest land totaled 2,572 burning 7,825.1 acres. Non-forest land fires totaled 588 and 1,325.4 acres. The non-forest category refers to land such as fields, pastures, rights-of-way, etc.

The fire season was spread fairly even over the winter and spring months. Above average rainfall with good distribution and no extended dry periods of high wind and low humidity were primarily responsible for the record low losses. Fire occurrence was one of the lowest on record and acreage losses were the lowest on record. The previous low forest land acreage loss was 11,766 acres in 1974-75 compared to 7,825.1 acres this year.

During the 1982-83 fiscal year a total of 1,988 fires were detected by fire towers and relayed to forest fire control personnel for suppression. Landowners and cooperating citizens reported an additional 1,172 fires to the Forestry Commission. Forestry Commission personnel also checked 1,829 false alarms during the year. A false alarm is a check on a suspected forest fire that ultimately does not require suppression action.

The leading cause of forest land fires in order of importance were: Incendiary 47%, Debris Burning 24%, and Smoking 8%.



**PROTECTION PERSONNEL**  
**Fiscal Year 1982-83**

	<i>Organized Personnel</i>				<i>Volunteer Personnel</i>	<i>Grand Total</i>
	<i>Rangers</i>	<i>Wardens</i>	<i>Tower Operators</i>	<i>Totals</i>		
Abbeville	1	3	1	5	135	140
Aiken	1	5	5	11	172	183
Allendale	1	3	3	7	27	34
Anderson	1	3	2	6	210	216
Bamberg	1	3	2	6	127	133
Barnwell	1	4	2	7	49	56
Beaufort	1	5	3	9	91	100
Berkeley	1	7	4	12	179	191
Calhoun	1	3	2	6	79	85
Charleston	1	7	3	11	40	51
Cherokee	1	2	1	4	552	556
Chester	1	3	1	5	46	51
Chesterfield	1	4	4	9	138	147
Clarendon	1	5	3	9	71	80
Colleton	1	8	5	14	93	107
Darlington	1	3	3	7	151	158
Dillon	1	3	2	6	14	20
Dorchester	1	6	3	10	15	25
Edgefield	1	3	1	5	36	41
Fairfield	1	3	3	7	212	219
Florence	1	5	4	10	185	195
Georgetown	1	5	4	10	257	267
Greenville	1	4	4	9	145	154
Greenwood	1	3	2	6	76	82
Hampton	1	4	3	8	52	60
Horry	1	8	4	13	206	219
Jasper	1	7	2	10	248	258
Kershaw	1	6	6	13	118	131
Lancaster	1	4	2	7	83	90
Laurens	1	3	2	6	167	173
Lee	1	3	2	6	54	60
Lexington	1	6	5	12	183	195
Marion	1	5	3	9	52	61
Marlboro	1	4	3	8	120	128
McCormick	1	2	2	5	48	53



**PROTECTION PERSONNEL**  
**Fiscal Year 1982-83**

	<i>Organized Personnel</i>				<i>Volunteer Personnel</i>	<i>Grand Total</i>
	<i>Rangers</i>	<i>Wardens</i>	<i>Tower Operators</i>	<i>Totals</i>		
Newberry	1	3	2	6	239	245
Oconee	1	3	2	6	12	18
Orangeburg	1	7	5	13	133	146
Pickens	1	4	4	9	44	53
Richland	1	6	4	11	291	302
Saluda	1	2	1	4	13	17
Spartanburg	1	4	2	7	67	74
Sumter	1	4	3	8	89	97
Union	1	3	1	5	70	75
Williamsburg	1	8	4	13	104	117
York	1	4	3	8	261	269
<b>Total</b>	<b>46</b>	<b>200</b>	<b>132</b>	<b>378</b>	<b>6,754</b>	<b>7,132</b>

**SUMMARY OF FOREST LAND FIRES BY MONTHS**  
**July 1, 1982 - June 30, 1983**

<i>Month</i>	<i>No. of Fires</i>	<i>Percent of Total Number</i>	<i>Area Burned (Acres)</i>	<i>Average Area Per Fire (Acres)</i>
July	74	2.9	118.5	1.6
August	63	2.4	399.1	6.3
September	104	4.0	235.0	2.3
October	65	2.5	87.0	1.3
November	141	5.5	396.6	2.8
December	124	4.8	367.9	3.0
January	233	9.1	647.9	2.8
February	202	7.9	688.4	3.4
March	519	20.2	1,991.3	3.8
April	386	15.0	1,098.8	2.8
May	392	15.2	1,297.3	3.3
June	269	10.5	497.3	1.8
<b>Totals</b>	<b>2,572</b>	<b>100.0</b>	<b>7,825.1</b>	<b>3.0</b>

# FOREST LAND FIRES BY COUNTY AND CAUSE

## FISCAL YEAR: 1982-83

County	Lightning		Campfire		Smoking		Debris Burning		Incendary		Equipment Use		Railroad		Children		Misc.		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	—	—	—	—	2	2.3	4	5.5	5	13.7	1	.5	1	.5	—	—	—	—	13	22.5
Aiken	2	15.2	1	1.5	6	6.0	30	61.5	56	162.0	8	26.4	3	7.3	17	17.9	9	13.2	132	311.0
Allendale	—	—	1	4.0	4	2.3	15	50.3	3	15.3	3	1.8	9	4.7	—	—	5	2.1	40	80.5
Anderson	1	.6	—	—	8	20.5	6	10.2	7	18.5	—	—	—	—	2	.7	3	8.5	27	59.0
Bamberg	—	—	—	—	1	.1	9	26.2	23	46.6	3	.7	2	3.0	7	6.4	1	.1	46	83.1
Barnwell	—	—	—	—	6	8.4	11	60.1	7	35.8	2	1.1	—	—	—	—	—	—	26	105.4
Beaufort	—	—	—	—	1	1.0	11	22.2	18	110.6	—	—	—	—	1	.5	—	—	31	134.3
Berkeley	—	—	—	—	—	—	14	17.9	158	719.6	2	3.0	3	3.3	1	2.0	—	—	178	745.8
Calhoun	—	—	—	—	5	2.4	20	19.0	—	—	2	6.0	2	2.3	—	—	1	.1	30	29.8
Charleston	—	—	—	—	1	2.0	3	58.0	25	101.2	—	—	—	—	1	1.0	1	1.2	31	163.4
Cherokee	—	—	—	—	10	15.2	6	7.8	6	13.3	1	1.0	—	—	2	.4	2	1.2	27	38.9
Chester	—	—	—	—	—	—	6	11.3	—	—	—	—	—	—	—	—	1	.5	7	11.8
Chesterfield	5	349.3	—	—	6	17.2	19	48.2	37	69.0	2	4.8	4	7.3	2	1.3	5	58.1	80	555.2
Clarendon	—	—	1	15.0	8	15.3	13	13.4	72	191.7	2	1.5	—	—	—	—	1	1.0	97	237.9
Colleton	—	—	2	7.0	3	16.0	20	64.5	78	302.6	3	10.0	—	—	2	6.0	1	1.0	109	407.1
Darlington	—	—	—	—	5	11.0	15	25.6	16	53.2	7	65.1	—	—	2	.5	3	.6	48	156.0
Dillon	—	—	—	—	7	3.2	10	15.7	15	32.4	—	—	—	—	4	1.6	1	.1	37	53.0
Dorchester	—	—	1	10.0	5	15.3	8	45.5	27	260.2	1	.2	—	—	1	2.0	1	10.0	44	343.2
Edgefield	1	1.0	—	—	7	5.5	8	10.4	—	—	1	.9	1	.1	2	.4	—	—	20	18.3
Fairfield	3	11.0	1	.5	10	12.6	18	42.4	1	.1	8	8.3	1	4.4	1	.1	1	.1	44	79.5
Florence	—	—	—	—	3	2.5	14	28.9	53	101.3	3	3.5	—	—	11	11.8	3	2.7	87	150.7
Georgetown	—	—	—	—	1	1.5	25	101.5	64	170.3	5	32.6	—	—	2	4.1	—	—	97	310.0
Greenville	—	—	1	1.0	5	4.5	11	16.2	2	15.4	5	14.2	—	—	4	16.4	2	1.2	30	68.9
Greenwood	2	15.0	—	—	6	13.1	14	27.6	2	.2	5	3.3	2	.2	6	1.0	3	.3	40	60.7
Hampton	1	28.8	—	—	—	—	16	23.1	24	52.7	1	.3	—	—	1	.2	—	—	43	105.1
Horry	—	—	2	2.2	5	5.8	34	111.7	47	130.7	9	30.1	1	1.0	11	8.3	7	3.0	116	292.8
Jasper	—	—	2	7.0	3	2.1	15	43.3	86	741.1	2	1.6	2	2.1	2	1.0	1	.2	113	798.4
Kershaw	10	25.8	—	—	6	27.3	19	30.2	5	6.3	1	1.0	2	.3	4	4.4	1	1.0	48	96.3
Lancaster	—	—	—	—	3	18.6	5	8.6	11	11.1	—	—	—	—	1	.2	4	27.5	24	66.0
Laurens	—	—	—	—	7	33.9	3	3.6	10	26.7	3	.6	—	—	2	2.2	1	.1	26	67.1
Lee	—	—	—	—	1	1.0	15	50.1	14	126.9	1	1.0	—	—	1	.5	1	.5	33	180.0
Lexington	1	1.0	1	.4	16	12.5	41	44.2	65	60.5	17	13.4	63	101.3	14	11.2	3	.7	221	245.2
Marion	1	.6	—	—	7	17.9	4	18.7	5	18.5	3	3.6	—	—	2	1.7	4	1.8	26	62.8
Marlboro	—	—	—	—	12	38.8	13	81.3	25	85.7	—	—	1	3.0	3	1.8	—	—	54	210.6
McCormick	—	—	—	—	5	5.1	4	.6	1	3.2	2	.8	6	6.2	6	3.2	3	.4	27	19.5
Newberry	—	—	1	.1	1	4.2	2	1.9	2	3.0	3	2.8	2	18.0	1	.1	2	3.4	14	33.5
Oconee	—	—	—	—	1	4.0	2	1.5	—	—	1	4.2	1	11.0	—	—	1	1.0	6	21.7
Orangeburg	1	.1	—	—	5	16.8	51	154.1	41	142.4	2	6.3	—	—	4	2.3	2	16.2	106	338.2
Pickens	3	2.8	—	—	4	6.8	4	3.5	1	3.0	3	21.0	—	—	1	.5	—	—	16	37.6
Richland	—	—	1	5.0	12	25.2	22	37.2	57	110.5	14	39.6	1	.8	14	17.1	4	5.2	125	240.6
Saluda	—	—	—	—	1	1.0	4	9.3	—	—	1	.1	—	—	—	—	—	—	6	10.4
Spartanburg	—	—	—	—	3	6.1	5	14.0	1	1.0	—	—	1	3.0	3	11.0	1	15.0	14	50.1
Sumter	1	3.0	—	—	4	15.1	16	57.7	31	128.4	—	—	6	38.5	4	6.9	2	13.0	64	262.6
Union	—	—	1	12.0	4	3.5	3	3.5	1	13.0	—	—	2	13.0	—	—	—	—	11	45.0
Williamsburg	—	—	—	—	—	—	30	41.8	95	336.3	3	2.0	—	—	3	.4	—	—	131	380.5
York	—	—	—	—	4	4.3	12	18.8	3	1.0	2	6.9	—	—	1	3.5	5	.6	27	35.1
TOTAL	32	454.2	16	65.7	214	427.9	630	1,548.6	1,200	4,435.0	132	320.2	116	231.3	146	150.6	86	191.6	2,572	7,825.1



# NON-FOREST LAND FIRES BY COUNTY AND CAUSE FISCAL YEAR: 1982-83

County	Lightning No. Acres		Campfire No. Acres		Smoking No. Acres		Debris Burning No. Acres		Incendinary No. Acres		Equipment Use No. Acres		Railroad No. Acres		Children No. Acres		Misc. No. Acres		Total No. Acres	
Abbeville	—	—	—	—	1	2.7	4	1.9	—	—	1	2.0	1	.7	—	—	4	4.0	11	11.3
Aiken	—	—	—	—	1	.3	14	100.3	10	12.6	7	32.6	1	.3	1	3.0	4	1.4	38	150.5
Allendale	—	—	—	—	—	—	3	7.3	1	8.0	1	.1	1	1.3	—	—	1	.1	7	16.8
Anderson	—	—	—	—	3	21.9	5	8.5	2	6.0	1	1.0	—	—	—	—	—	—	11	37.4
Bamberg	—	—	—	—	—	—	1	1.0	3	21.0	—	—	—	—	2	2.6	—	—	6	24.6
Barnwell	—	—	—	—	3	5.4	3	12.3	—	—	1	1.0	—	—	1	.5	—	—	8	19.2
Beaufort	—	—	—	—	—	.2	15	39.6	13	101.1	—	—	—	—	—	—	—	—	28	140.9
Berkeley	—	—	—	—	1	.1	—	—	3	.3	1	.1	—	—	—	—	1	.1	6	.6
Calhoun	—	—	—	—	3	1.4	2	10.4	—	—	1	3.5	—	—	—	—	5	.6	11	15.9
Charleston	—	—	—	—	—	—	—	10.0	—	—	—	—	—	—	—	—	—	—	—	10.0
Cherokee	—	—	—	—	8	1.8	6	4.4	6	6.8	1	1.0	—	—	6	10.0	1	2.0	28	26.0
Chester	—	—	—	—	—	—	1	3.0	—	—	—	—	—	—	1	.3	—	—	2	3.3
Chesterfield	1	3.0	—	—	4	13.3	2	1.8	—	—	3	4.1	—	—	2	.2	3	12.9	15	35.3
Clarendon	—	—	—	—	11	2.4	6	23.5	8	5.5	—	—	—	—	2	.2	—	—	27	31.6
Colleton	—	—	1.0	—	1	2.7	5	31.0	15	36.1	—	—	—	—	—	1.0	1	.5	22	72.3
Darlington	—	—	—	—	1	1.0	8	7.9	1	.4	4	1.8	—	4	2	.4	—	—	16	11.5
Dillon	—	—	—	—	5	2.6	4	2.8	9	10.6	—	—	1	2.1	9	5.4	1	.1	29	23.6
Dorchester	—	—	—	—	12	10.0	5	13.0	16	15.8	1	5.0	—	—	—	—	—	—	34	43.8
Edgefield	—	—	—	—	1	7.0	1	4.0	—	—	—	—	—	—	—	—	—	—	2	11.0
Fairfield	—	—	—	—	2	.3	1	.4	—	—	4	9.0	3	2.1	—	—	1	.1	11	11.9
Florence	—	—	—	—	4	1.5	5	2.9	1	5.0	1	.1	—	—	1	.5	—	—	12	10.0
Georgetown	—	—	—	—	1	.1	—	—	1	.1	2	1.6	—	—	—	—	—	—	4	1.8
Greenville	—	—	—	—	3	12.0	2	1.1	1	3.0	—	—	—	—	2	2.4	3	.6	11	19.1
Greenwood	—	—	—	—	2	.2	2	.4	—	—	—	—	—	—	—	—	—	—	4	.6
Hampton	—	—	—	—	1	120.0	5	1.9	13	8.6	4	2.9	—	—	—	—	—	—	23	133.4
Horry	—	—	—	—	—	—	1	9.0	—	—	—	—	—	—	1	.2	—	—	2	9.2
Jasper	—	—	—	—	4	2.3	4	1.4	22	65.4	—	1.0	—	—	1	.5	—	—	31	70.6
Kershaw	—	—	—	—	—	—	3	2.3	—	—	—	—	—	—	1	2.0	—	—	4	4.3
Lancaster	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Laurens	—	—	—	—	8	35.0	4	23.5	2	1.3	5	7.4	4	.6	—	—	3	.4	26	68.2
Lee	—	—	—	—	—	—	—	12.0	1	1.0	—	—	1	1.0	—	—	—	—	2	14.0
Lexington	1	.1	—	—	5	9.7	6	12.7	3	5.9	8	3.0	2	6.4	3	2.4	2	.5	30	40.7
Marion	—	—	—	—	1	.5	4	6.6	1	.1	2	.3	—	—	1	.1	—	—	9	7.6
Marlboro	—	—	—	—	3	1.4	7	2.5	2	3.0	1	1.0	1	.1	3	4.1	3	2.2	20	14.3
McCormick	—	—	—	—	2	.4	2	1.2	—	—	1	.6	—	.1	—	—	1	.3	6	2.6
Newberry	—	—	—	—	—	—	2	1.8	—	—	—	—	—	—	1	.5	1	.2	4	2.5
Oconee	—	—	—	—	—	—	2	2.5	—	—	1	.8	—	—	—	—	—	—	3	3.3
Orangeburg	—	—	—	—	7	12.1	9	54.9	8	21.3	6	19.6	1	1.5	2	12.5	1	.1	34	122.0
Pickens	—	—	—	—	—	.4	3	1.2	—	—	—	.3	—	—	—	.5	—	—	3	2.4
Richland	—	—	—	—	—	—	3	3.2	1	7.0	—	—	—	—	2	6.0	1	.2	7	16.4
Saluda	—	—	—	—	—	—	2	4.8	—	—	—	—	—	—	—	—	—	—	2	4.8
Spartanburg	—	—	—	—	4	14.0	1	5.0	—	—	—	—	—	—	—	—	1	1.0	6	20.0
Sumter	—	—	—	—	1	2.0	—	3.5	4	15.2	1	.1	1	2.0	2	5.0	1	2.0	10	29.8
Union	—	—	—	—	2	4.0	—	—	—	—	1	2.0	—	—	—	—	1	.5	4	6.5
Williamsburg	—	—	—	—	—	—	—	—	—	1.0	—	—	—	—	1	.1	—	—	1	1.1
York	—	—	—	—	1	2.0	5	5.2	1	1.0	6	9.4	—	—	3	4.0	2	1.1	18	22.7
TOTAL	2	3.1	—	1.0	106	290.7	158	442.7	148	363.1	65	111.3	17	18.2	50	64.4	42	30.9	588	1,325.4



# FOREST LAND FIRES BY COUNTY AND CLASS

## FISCAL YEAR 1982-83

County	Class A		Class B		Class C		Class D		Class E		Class F		Class G		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	5	0.5	8	22.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	13	22.5
Aiken	41	6.4	84	166.3	7	138.3	0	0.0	0	0.0	0	0.0	0	0.0	132	311.0
Allendale	10	1.4	27	37.1	3	42.0	0	0.0	0	0.0	0	0.0	0	0.0	40	80.5
Anderson	0	0.0	27	55.4	0	3.6	0	0.0	0	0.0	0	0.0	0	0.0	27	59.0
Bamberg	13	1.5	31	54.6	2	27.0	0	0.0	0	0.0	0	0.0	0	0.0	46	83.1
Barnwell	4	0.8	20	48.6	2	56.0	0	0.0	0	0.0	0	0.0	0	0.0	26	105.4
Beaufort	4	0.4	26	71.9	1	62.0	0	0.0	0	0.0	0	0.0	0	0.0	31	134.3
Berkeley	17	1.8	143	289.5	18	454.5	0	0.0	0	0.0	0	0.0	0	0.0	178	745.8
Calhoun	8	1.1	22	28.4	0	0.3	0	0.0	0	0.0	0	0.0	0	0.0	30	29.8
Charleston	0	0.0	27	82.4	4	81.0	0	0.0	0	0.0	0	0.0	0	0.0	31	163.4
Cherokee	9	1.8	18	37.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	27	38.9
Chester	1	0.1	6	11.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	7	11.8
Chesterfield	23	3.2	52	108.5	4	103.5	0	0.0	1	340.0	0	0.0	0	0.0	80	555.2
Clarendon	23	2.3	69	158.6	5	77.0	0	0.0	0	0.0	0	0.0	0	0.0	97	237.9
Colleton	16	2.3	87	275.8	6	129.0	0	0.0	0	0.0	0	0.0	0	0.0	109	407.1
Darlington	16	3.0	30	74.0	2	79.0	0	0.0	0	0.0	0	0.0	0	0.0	48	156.0
Dillon	22	2.5	14	30.5	1	20.0	0	0.0	0	0.0	0	0.0	0	0.0	37	53.0
Dorchester	2	0.4	33	127.8	9	215.0	0	0.0	0	0.0	0	0.0	0	0.0	44	343.2
Edgefield	5	0.7	15	17.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	20	18.3
Fairfield	14	1.8	29	62.7	1	15.0	0	0.0	0	0.0	0	0.0	0	0.0	44	79.5
Florence	30	3.8	55	128.9	2	18.0	0	0.0	0	0.0	0	0.0	0	0.0	87	150.7
Georgetown	24	3.0	66	170.0	7	137.0	0	0.0	0	0.0	0	0.0	0	0.0	97	310.0
Greenville	3	0.5	25	47.0	2	21.4	0	0.0	0	0.0	0	0.0	0	0.0	30	68.9
Greenwood	19	2.2	19	38.5	2	20.0	0	0.0	0	0.0	0	0.0	0	0.0	40	60.7
Hampton	12	1.9	28	52.4	3	50.8	0	0.0	0	0.0	0	0.0	0	0.0	43	105.1
Horry	25	3.5	84	149.3	7	140.0	0	0.0	0	0.0	0	0.0	0	0.0	116	292.8
Jasper	16	2.1	84	203.3	12	245.0	0	0.0	1	348.0	0	0.0	0	0.0	113	798.4
Kershaw	9	1.3	37	61.5	2	33.5	0	0.0	0	0.0	0	0.0	0	0.0	48	96.3
Lancaster	7	1.3	14	26.7	3	38.0	0	0.0	0	0.0	0	0.0	0	0.0	24	66.0
Laurens	8	1.0	16	32.1	2	34.0	0	0.0	0	0.0	0	0.0	0	0.0	26	67.1
Lee	2	0.2	29	79.8	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0	33	180.0
Lexington	90	11.9	130	218.3	1	15.0	0	0.0	0	0.0	0	0.0	0	0.0	221	245.2
Marion	11	1.3	13	29.5	2	32.0	0	0.0	0	0.0	0	0.0	0	0.0	26	62.8
Marlboro	23	3.1	26	49.5	5	158.0	0	0.0	0	0.0	0	0.0	0	0.0	54	210.6
McCormick	15	2.0	12	17.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	27	19.5
Newberry	5	0.8	8	16.7	1	16.0	0	0.0	0	0.0	0	0.0	0	0.0	14	33.5
Oconee	0	0.0	5	10.7	1	11.0	0	0.0	0	0.0	0	0.0	0	0.0	6	21.7
Orangeburg	21	3.3	79	233.4	6	101.5	0	0.0	0	0.0	0	0.0	0	0.0	106	338.2
Pickens	1	0.1	14	17.5	1	20.0	0	0.0	0	0.0	0	0.0	0	0.0	16	37.6
Richland	37	4.9	84	191.7	4	44.0	0	0.0	0	0.0	0	0.0	0	0.0	125	240.6
Saluda	2	0.2	3	3.2	1	7.0	0	0.0	0	0.0	0	0.0	0	0.0	6	10.4
Spartanburg	1	0.1	12	35.0	1	15.0	0	0.0	0	0.0	0	0.0	0	0.0	14	50.1
Sumter	2	0.3	53	127.3	9	135.0	0	0.0	0	0.0	0	0.0	0	0.0	64	262.6
Union	0	0.0	8	8.0	3	37.0	0	0.0	0	0.0	0	0.0	0	0.0	11	45.0
Williamsburg	50	6.1	71	141.4	10	233.0	0	0.0	0	0.0	0	0.0	0	0.0	131	380.5
York	11	1.5	16	33.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	27	35.1
TOTAL	657	88.4	1,759	3,883.3	154	3,165.4	0	0.0	2	688.0	0	0.0	0	0.0	2,572	7,825.1

# FOREST LAND FIRES BY COUNTY AND MONTH

## FISCAL YEAR 1982-83

County	July		August		September		October		November		December		January		February		March		April		May		June		Total	
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres
Abbeville	—	—	1	.1	2	4.1	1	7.5	—	—	—	—	1	.2	2	.3	4	5.8	—	—	2	4.5	—	—	13	22.5
Aiken	14	26.2	7	12.1	10	26.3	4	5.7	8	61.1	4	4.3	17	23.6	10	16.6	18	50.2	8	19.1	18	20.6	14	45.2	132	311.0
Allendale	—	—	1	.2	1	1.0	—	—	4	15.8	2	16.0	4	5.3	6	15.3	10	5.4	5	18.5	6	2.3	1	.7	40	80.5
Anderson	1	.4	—	—	2	4.5	1	8.0	1	2.0	—	—	3	9.1	6	10.6	5	7.5	4	8.8	3	7.5	1	.6	27	59.0
Bamberg	—	—	—	—	1	.1	3	1.5	4	15.9	9	9.0	9	15.9	4	5.6	4	4.9	5	6.1	4	20.7	3	3.4	46	83.1
Barnwell	—	—	1	.2	1	4.0	—	—	1	.2	1	35.0	—	6.2	2	1.8	6	28.7	4	12.4	5	12.2	5	4.7	26	105.4
Beaufort	—	—	—	—	—	—	—	—	1	1.4	2	11.5	7	41.7	3	14.3	4	3.8	6	21.9	7	34.4	1	5.3	31	134.3
Berkeley	3	7.0	2	2.0	3	5.0	2	12.0	5	7.1	26	169.2	18	70.2	14	15.3	49	233.1	31	92.7	19	116.2	6	16.0	178	745.8
Calhoun	2	.8	—	—	3	3.3	1	.1	4	10.0	—	—	1	.2	1	.4	5	6.1	—	—	4	3.7	9	5.2	30	29.8
Charleston	—	—	—	—	—	—	—	—	1	2.0	2	6.0	8	57.5	3	10.0	7	25.5	5	9.9	5	52.5	—	—	31	163.4
Cherokee	1	1.0	—	—	—	—	2	.6	2	4.3	1	4.0	7	12.0	1	.2	3	2.2	7	2.6	2	6.0	1	6.0	27	38.9
Chester	—	—	—	—	1	.8	—	—	—	—	—	—	—	—	—	—	2	8.1	3	.9	1	2.0	—	—	7	11.8
Chesterfield	4	7.3	4	346.3	6	24.4	—	—	5	14.1	2	2.9	6	6.1	5	4.2	25	55.0	11	71.6	6	20.3	6	3.0	80	555.2
Clarendon	1	2.0	3	6.1	2	4.1	4	3.5	8	13.8	5	4.2	6	15.9	6	2.4	15	31.5	23	99.9	18	45.3	6	9.2	97	237.9
Colleton	1	1.0	1	.1	3	8.0	1	.1	10	22.1	6	10.7	12	104.0	11	45.3	26	73.6	16	63.2	17	75.0	5	4.0	109	407.1
Darlington	2	5.2	—	—	1	.4	4	6.6	3	1.7	3	2.0	5	31.4	5	17.7	7	64.5	6	9.4	6	10.9	6	6.2	48	156.0
Dillon	—	—	3	.5	4	9.0	1	.1	3	5.6	1	.3	4	.8	1	2.0	10	30.6	1	.3	6	2.6	3	1.2	37	53.0
Dorchester	—	—	—	—	—	—	—	—	3	10.0	3	1.5	6	31.2	3	16.0	13	117.2	6	45.8	8	120.0	2	1.5	44	343.2
Edgefield	4	1.6	—	—	4	2.4	1	.2	—	—	—	—	1	.1	—	—	4	8.7	5	5.0	1	.3	—	—	20	18.3
Fairfield	8	5.2	—	—	3	10.3	3	3.0	3	2.9	—	—	4	18.5	2	1.5	7	11.5	2	1.8	11	22.3	1	2.5	44	79.5
Florence	—	—	1	.1	2	2.1	—	—	4	10.6	8	10.5	9	13.7	5	15.4	22	48.7	12	8.3	17	36.3	7	5.0	87	150.7
Georgetown	2	14.0	1	.2	1	2.0	3	4.8	3	1.7	3	7.3	2	6.1	4	3.2	23	65.6	30	59.5	14	77.9	11	67.7	97	310.0
Greenville	1	5.0	—	—	1	5.0	1	1.0	3	2.8	—	—	6	6.5	1	3.0	6	10.2	6	27.9	5	7.5	—	—	30	68.9
Greenwood	3	.4	3	.5	5	5.9	2	5.0	1	5.0	—	—	4	.7	3	3.9	5	4.6	5	21.3	6	13.1	3	.3	40	60.7
Hampton	—	—	1	1.5	3	.4	8	6.8	2	.5	5	6.9	2	1.4	3	5.7	13	38.1	3	11.3	2	30.0	1	2.5	43	105.1
Horry	—	—	3	2.8	3	15.4	3	1.6	8	18.2	5	2.6	4	2.5	2	6.0	23	71.5	20	50.0	22	90.9	23	31.3	116	292.8
Jasper	3	1.7	—	—	1	1.5	2	1.1	9	26.6	8	16.4	6	23.5	15	142.2	37	514.9	18	46.4	10	16.4	4	7.7	113	798.4
Kershaw	3	6.3	2	.5	—	—	—	—	1	2.0	3	3.5	1	2.0	1	1.5	8	17.1	7	7.0	15	47.1	7	9.3	48	96.3
Lancaster	1	12.0	2	.8	2	2.2	2	1.1	1	12.0	—	—	1	.2	3	7.8	3	7.6	4	14.6	4	6.5	1	1.2	24	66.0
Laurens	—	—	—	—	5	5.2	2	1.4	—	—	—	—	2	6.0	3	4.2	2	22.1	7	25.7	1	.6	4	1.9	26	67.1
Lee	—	—	—	—	1	.5	1	2.0	3	21.5	—	—	1	1.0	4	96.5	9	27.4	7	11.5	3	11.1	4	8.5	33	180.0
Lexington	8	5.6	4	2.4	2	1.1	1	2.0	10	9.1	3	2.4	17	16.5	15	24.9	43	49.3	40	59.8	31	14.3	47	57.8	221	245.2
Marion	—	—	1	.2	2	14.5	—	—	2	1.8	2	3.6	2	.3	—	.5	3	10.0	3	1.2	7	29.8	4	.9	26	62.8
Marlboro	1	.5	2	6.1	—	—	—	—	3	4.2	1	.2	1	3.0	3	4.3	13	83.7	4	2.1	12	97.0	14	9.5	54	210.6
McCormick	3	1.2	1	.1	6	1.4	3	.4	2	3.3	—	—	1	.2	1	.2	1	4.1	4	6.7	3	1.5	2	.4	27	19.5
Newberry	—	—	1	.2	1	.1	1	.2	1	4.2	—	—	1	.2	2	3.7	—	—	3	5.4	2	3.4	2	16.1	14	33.5
Oconee	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	.5	—	.2	3	19.0	1	1.0	1	1.0	6	21.7
Orangeburg	1	3.0	4	5.4	2	.3	—	—	7	39.2	5	4.7	10	27.6	9	29.1	20	64.1	12	30.4	13	37.7	23	96.7	106	338.2
Pickens	2	2.7	—	—	1	.5	—	—	1	3.0	—	—	—	—	2	21.0	6	8.0	2	1.8	2	.6	—	—	16	37.6
Richland	2	5.8	9	5.8	13	17.9	4	7.5	7	19.8	2	8.3	15	39.0	10	20.7	22	50.0	4	2.7	28	41.3	9	21.8	125	240.6
Saluda	1	.1	—	—	—	—	—	—	—	—	1	1.0	—	—	—	—	2	7.1	—	—	1	1.0	1	1.2	6	10.4
Spartanburg	—	—	1	4.0	—	—	—	—	—	—	1	5.0	1	.1	2	3.0	6	32.0	3	6.0	—	—	—	—	14	50.1
Sumter	1	2.0	2	.6	2	30.0	1	.5	3	18.5	3	10.9	8	30.5	11	51.9	8	29.2	3	11.0	14	64.5	8	13.0	64	262.6
Union	1	.5	—	—	1	1.0	1	1.0	—	—	—	—	1	.5	—	—	1	1.0	5	40.0	—	—	1	1.0	11	45.0
Williamsburg	—	—	1	.1	1	20.0	2	.7	4	2.6	6	7.9	18	15.4	13	48.8	17	47.6	28	130.6	23	84.3	18	22.5	131	380.5
York	—	—	1	.2	2	.3	—	1.0	—	—	1	.1	1	1.1	4	10.9	2	3.3	5	8.7	7	4.2	4	5.3	27	35.1
TOTAL	74	118.5	63	399.1	104	235.0	65	87.0	141	396.6	124	367.9	233	647.9	202	688.4	519	1,991.3	386	1,098.8	392	1,297.3	269	497.3	2,572	7,825.1



**FOREST LAND FIRES BY CAUSE  
FISCAL YEAR 1982-83**

<i>Causes</i>	<i>Number of Fires</i>	<i>Percent of Total Number</i>	<i>Area Burned (Acres)</i>	<i>Average Area Per Fire (Acres)</i>
Lightning	32	1.24	454.2	14.2
Campfire	16	.62	65.7	4.1
Smoking	214	8.32	427.9	2.0
Debris Burning	630	24.49	1,548.6	2.5
Incendiary	1,200	46.65	4,435.0	3.7
Equipment Use	132	5.13	320.2	2.4
Railroad	116	4.51	231.3	2.0
Children	146	5.67	150.6	1.0
Miscellaneous	86	3.34	191.6	2.2
<b>TOTALS</b>	<b>2,572</b>	<b>100.00</b>	<b>7,825.1</b>	<b>3.0</b>

**FOREST LAND FIRES BY CAUSE — FIVE YEAR PERIOD  
(Percent of Total)**

<i>Causes</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>	<i>1981-82</i>	<i>1982-83</i>
Lightning	0.7	1.0	1.2	1.0	1.16
Campfire	0.6	0.8	0.5	0.8	.86
Smoking	14.0	14.8	9.9	12.6	11.30
Debris Burning	29.0	25.6	21.0	25.0	24.32
Incendiary	38.0	34.4	51.6	42.4	45.75
Equipment Use	3.5	5.5	3.4	6.3	5.40
Railroad	3.5	5.0	4.0	3.0	2.47
Children	7.3	8.7	4.9	4.7	4.52
Miscellaneous	3.3	4.2	3.5	4.2	4.19



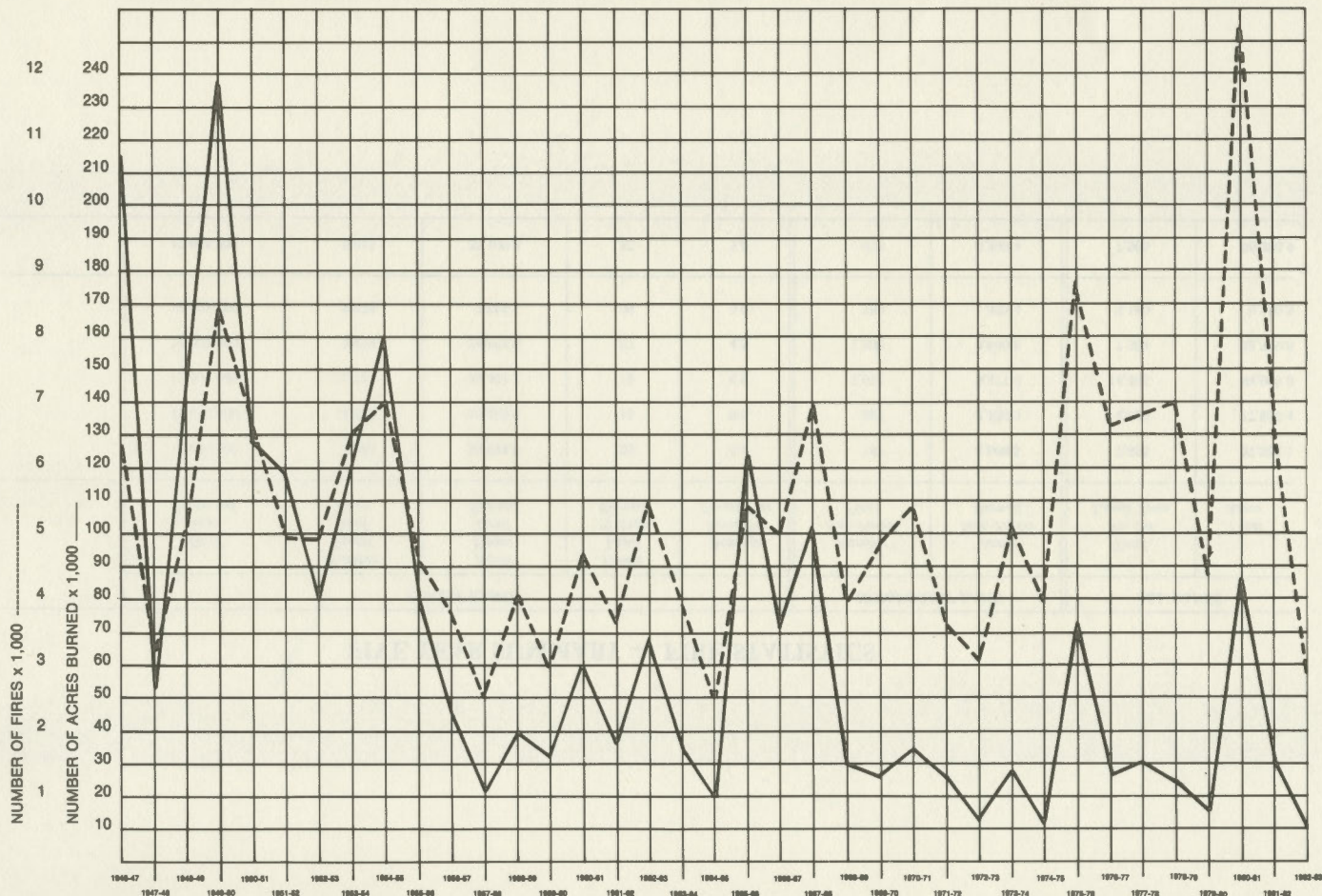
# FOREST AND NON-FOREST LAND FIRES FISCAL YEAR 1982-83

Unit	FOREST LAND					NON-FOREST LAND		TOTAL ALL LAND	
	Forest Area Protected (Acres)	Number of Fires	Area Burned (Acres)	Percent Area Burned	Average Area Per Fire (Acres)	Number of Fires	Area Burned (Acres)	Number of Fires	Area Burned (Acres)
Abbeville	205,619	13	22.5	.01	1.7	11	11.3	24	33.8
Aiken	433,387	132	311.0	.07	2.4	38	150.5	170	461.5
Allendale	156,223	40	80.5	.05	2.0	7	16.8	47	97.3
Anderson	227,594	27	59.0	.02	2.2	11	37.4	38	96.4
Barnberg	149,603	46	83.1	.05	1.8	6	24.6	52	107.7
Barnwell	123,617	26	105.4	.08	4.1	8	19.2	34	124.6
Beaufort	153,166	31	134.3	.08	4.3	28	140.9	59	275.2
Berkeley	391,789	178	745.8	.19	4.2	6	.6	184	746.4
Calhoun	134,105	30	29.8	.02	1.0	11	15.9	41	45.7
Charleston	262,798	31	163.4	.06	5.3	—	10.0	31	173.4
Cherokee	162,976	27	38.9	.02	1.4	28	26.0	55	64.9
Chester	283,949	7	11.8	.00	1.7	2	3.3	9	15.1
Chesterfield	355,398	80	555.2	.15	6.9	15	35.3	95	590.5
Clarendon	217,876	97	237.9	.10	2.5	27	31.6	124	269.5
Colleton	479,853	109	407.1	.08	3.7	22	72.3	131	479.4
Darlington	171,141	48	156.0	.09	3.3	16	11.5	64	167.5
Dillon	145,574	37	53.0	.03	1.4	29	23.6	66	76.6
Dorchester	273,472	44	343.2	.12	7.8	34	43.8	78	387.0
Edgefield	208,660	20	18.3	.00	0.9	2	11.0	22	29.3
Fairfield	378,650	44	79.5	.02	1.8	11	11.9	55	91.4
Florence	291,159	87	150.7	.05	1.7	12	10.0	99	160.7
Georgetown	381,198	97	310.0	.08	3.2	4	1.8	101	311.8
Greenville	315,925	30	68.9	.02	2.3	11	19.1	41	88.0
Greenwood	201,795	40	60.7	.03	1.5	4	.6	44	61.3
Hampton	247,779	43	105.1	.04	2.4	23	133.4	66	238.5
Horry	496,547	116	292.8	.05	2.5	2	9.2	118	302.0
Jasper	317,032	113	798.4	.25	7.1	31	70.6	144	869.0
Kershaw	403,461	48	96.3	.02	2.0	4	4.3	52	100.6
Lancaster	242,709	24	66.0	.02	2.8	—	—	24	66.0
Laurens	294,516	26	67.1	.02	2.6	26	68.2	52	135.3
Lee	122,845	33	180.0	.14	5.5	2	14.0	35	194.0
Lexington	284,158	221	245.2	.08	1.1	30	40.7	251	285.9
Marion	217,136	26	62.8	.02	2.4	9	7.6	35	70.4
Marlboro	175,333	54	210.6	.12	3.9	20	14.3	74	224.9
McCormick	134,484	27	19.5	.01	0.7	6	2.6	33	22.1
Newberry	262,111	14	33.5	.01	2.4	4	2.5	18	36.0
Oconee	215,041	6	21.7	.01	3.6	3	3.3	9	25.0
Orangeburg	376,278	106	338.2	.09	3.2	34	122.0	140	460.2
Pickens	228,839	16	37.6	.01	2.4	3	2.4	—	—
Richland	288,854	125	240.6	.08	1.9	7	16.4	132	257.0
Saluda	194,122	6	10.4	.00	1.7	2	4.8	8	15.2
Spartanburg	292,516	14	50.1	.01	3.6	6	20.0	20	70.1
Sumter	240,153	64	262.6	.10	4.1	10	29.8	74	292.4
Union	220,583	11	45.0	.02	4.1	4	6.5	15	51.5
Williamsburg	392,392	131	380.5	.09	2.9	1	1.1	132	381.6
York	278,674	27	35.1	.01	1.3	18	22.7	45	57.8
Total	12,031,090	2,572	7,825.1	.06	3.0	588	1,325.4	3,160	9,150.5

### FIVE YEAR SUMMARY — FIRE STATISTICS

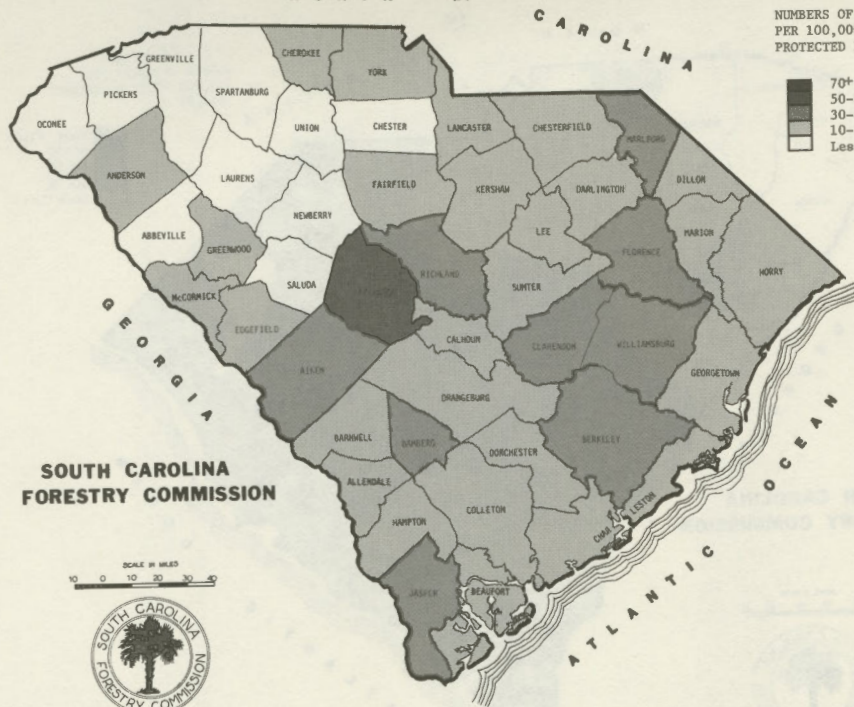
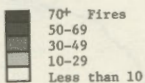
Fiscal Year	FOREST LAND					NON-FOREST LAND		ALL LANDS	
	Total Area Protected	Number Forest land Fires	Acres Forest Land Burned	Forest Land % Area Burned	Average Acres Per Forest Fire	Number Non-Forest Fires	Acres Non-Forest Burned	Total No. All Lands Fires	Total Acres
1978-79	12,050,000	7,018	23,894.6	.20	3.4	787	3,666.5	7,805	27,561.1
1979-80	12,050,000	4,293	15,483.2	.13	3.6	527	2,156.2	4,820	17,639.4
1980-81	12,031,090	12,734	89,431.1	.79	6.6	1,671	5,477.9	14,405	94,909.0
1981-82	12,031,090	6,459	28,868.8	.27	4.5	1,290	3,840.8	7,334	32,709.6
1982-83	12,031,090	2,572	7,825.1	.06	3.0	588	1,325.4	3,160	9,150.5
Five Year Average	12,038,654	6,615	33,100.6	.27	5.0	973	3,293.4	7,505	36,393.9

# FOREST LAND FIRES AND ACREAGE BURNED IN SOUTH CAROLINA

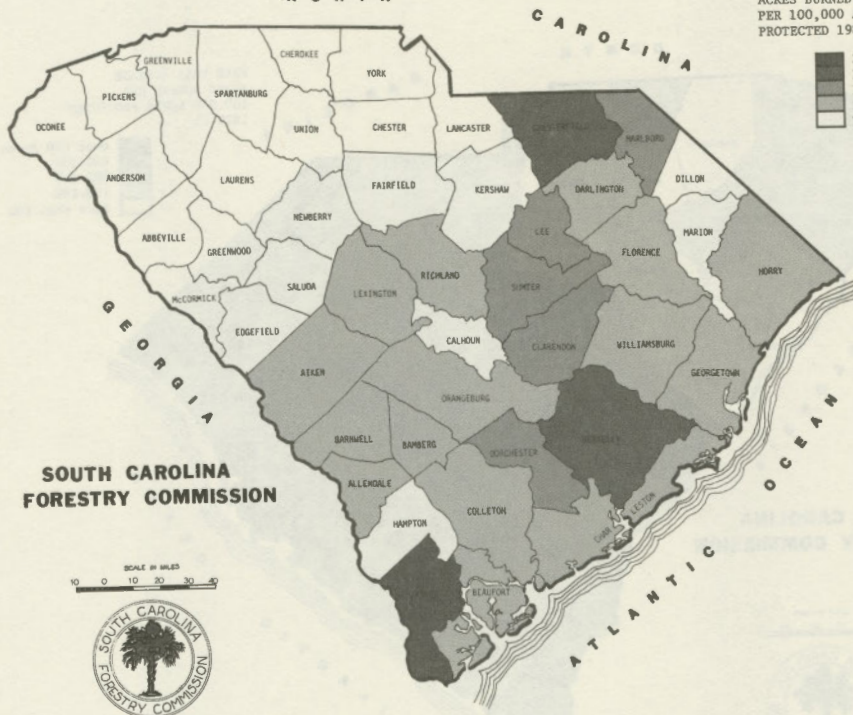
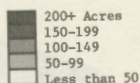




NUMBERS OF FIRES  
PER 100,000 ACRES  
PROTECTED 1982-83



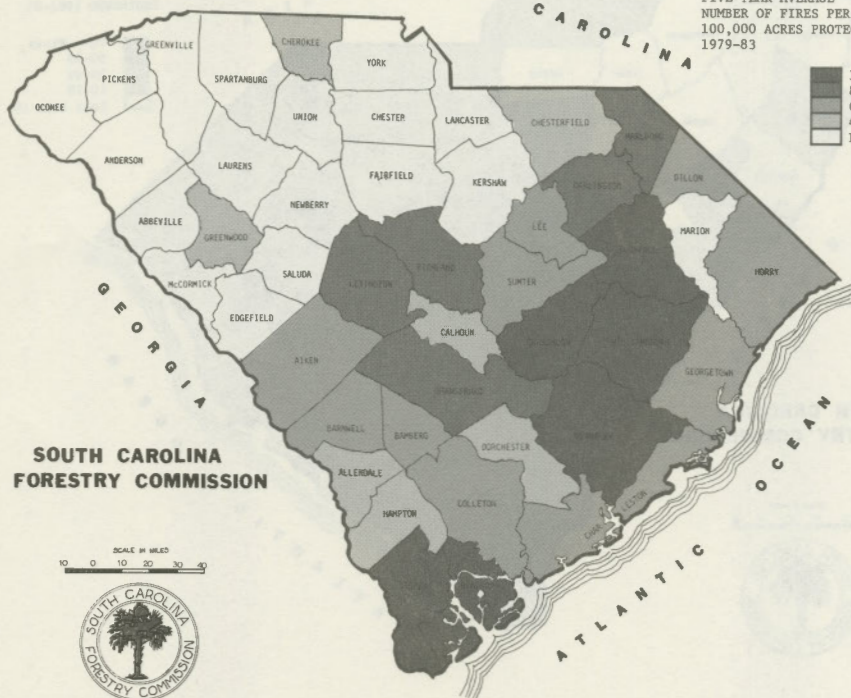
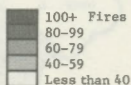
ACRES BURNED  
PER 100,000 ACRES  
PROTECTED 1982-83



NORTH

CAROLINA

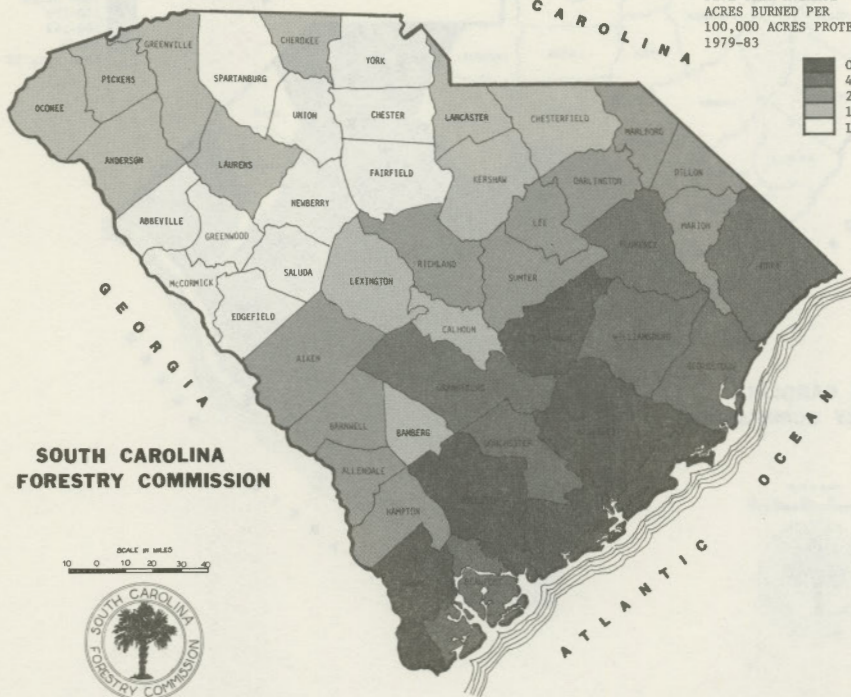
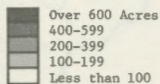
FIVE YEAR AVERAGE  
NUMBER OF FIRES PER  
100,000 ACRES PROTECTED  
1979-83



NORTH

CAROLINA

FIVE YEAR AVERAGE  
ACRES BURNED PER  
100,000 ACRES PROTECTED  
1979-83





## NURSERIES AND TREE IMPROVEMENT SECTION

The Forestry Commission operates four forest tree nurseries for the production of seedlings for South Carolina landowners. Commission nurseries grew and distributed 47,798,858 seedlings during the 1982-83 planting season. Of these, 2,166,500 were shipped out-of-state.

South Carolina's wood using industries planted 40,632,941 seedlings. These consisted of 26,027,147 grown in industry nurseries in S. C. while 14,605,794 were brought in by industry and the U. S. Forest Service. A grand total of 86,265,299 seedlings were planted in the state during the year.

Seventeen different tree species were grown at the four state nurseries. Genetically improved seedlings accounted for 73% of the Commission's total production. Although the Commission was able to meet most seedling demands, the supplies of a few species were exhausted before some orders were received.

This spring, seeds were planted to grow 58.1 million seedlings for the 1983-84 planting season.

### Research

The Forestry Commission continues cooperative research projects with Clemson University, Auburn University and the U. S. Forest Service.

### Containerized Seedlings

Specialized needs existed for seedlings other than bare root stock grown at Commission Nurseries. To meet these needs, a double bay greenhouse was constructed in the late fall at Creech Seed Orchard, Wedgefield. This greenhouse gives the Commission the capacity to grow one million containerized seedlings annually.

The first production of containerized seedlings began with the planting of 130,000 seeds in styroblock containers on March 2, 1983. This first crop was distributed to landowners in June at a cost of \$42 per thousand and consisted of improved coastal and piedmont loblolly pine and regular longleaf pine.

### Forest Tree Seed Collection Program

#### *Seed Collection*

Each year the Forestry Commission collects pine cones and other seed for tree seedling production. Field office personnel locate private collectors in good seed producing areas to obtain some of the cones and other seed needed. An increasing amount of seed is now being obtained from tree seed orchards. These improved tree cones are collected by Commission personnel. While the pine seed crop was fair to good last year, some



other seed were severely damaged by late spring freeze. Cones and seed collected were as follows: From the seed orchard, 2,822 bushels of cones were collected. In addition, other cones and seed were purchased. These included 937 bushels of regular Coastal loblolly, 168 bushels of black walnut, 4 bushels of baldcypress and 55 bushels of improved Virginia pine cones.

### *Seed Extraction*

The seed extractory was operated for the twenty-sixth year with continued good results. Loblolly pine seed costs for 1982-83 averaged \$28.42 per pound of seed from the orchard trees and \$9.50 per pound of seed from other trees.

### **Forest Tree Improvement Program**

A forest tree improvement program was begun in 1963 by the South Carolina Forestry Commission to provide genetically improved seed for all loblolly, slash and longleaf seedlings grown in Commission nurseries. The Forestry Commission continues its membership in the North Carolina State University Tree Improvement Cooperative.

Seed orchards have been established as follows:

Piedmont Loblolly Pine (disease resistant) . . . . .	5	acres
Piedmont Loblolly Pine . . . . .	40	acres
Second Generation Piedmont Loblolly Pine . . . . .	13.4	acres
Coastal Loblolly Pine (disease resistant) . . . . .	5	acres
Coastal Loblolly Pine . . . . .	31	acres
Coastal Loblolly Pine 1½ generation . . . . .	39	acres
Second Generation Coastal Loblolly Pine . . . . .	10.2	acres
South Carolina Slash Pine . . . . .	21	acres
Georgia Slash Pine . . . . .	22	acres
Longleaf Pine . . . . .	12	acres
Arizona Cypress . . . . .	1.25	acres
New Plantation Selections — Piedmont Loblolly . . . . .	5.8	acres
New Plantation Selections — Coastal Loblolly . . . . .	2.2	acres
Total . . . . .	207.85	acres

Grafts of scion to root stock in fiscal year 1982-83 consisted of the following:

338 Second Generation Coastal Loblolly
658 Second Generation Piedmont Loblolly
174 Grafts for Advanced Breeding
<u>510 Clone Bank Grafts of New Selections</u>
1,680 Total Grafts

Cones collected and seed yields from seed orchards in 1982-83 were as follows:

	<i>Bushel Cones Collected</i>	<i>Pounds Seed Per Bushel</i>	<i>Total Pounds Seed</i>
Improved Coastal Loblolly .....	630	1.7	1,071
Improved Coastal Loblolly (disease resistant) . . .	42	.52	22
1.5 Generation Improved Coastal Loblolly . . . .	35	.31	10.9
Improved Piedmont Loblolly .....	1,387	1.6	2,219.2
Improved Piedmont Loblolly (disease resistant) .	105	.9	94.5
Improved Slash Pine .....	<u>623</u>	.74	<u>463</u>
Grand Total .....	2,822		3,880.6

It is anticipated that these seed will produce 8,832,000 improved coastal loblolly pine seedlings and 18,509,000 improved piedmont loblolly pine seedlings. Seedlings produced from these seed will be available to South Carolina landowners in the 1983-84 planting season.

#### *Progeny Tests*

Present progeny plantings remain at 299.8 acres. Second generation progeny out-planting will begin in December 1984.

Measurements of first generation progeny reaching 5 years, 8 years and 12 years of age continue. Data from these measurements will be used to determine the superiority of selected clones. Selections made to date include 40 piedmont loblolly pine, 14 coastal loblolly pine, 14 slash pine (Georgia origin) and 2 slash pine (South Carolina origin). These trees probably will be used in the second generation seed orchards.

### Seedling Production by Species Commission Nurseries

Improved Coastal Loblolly Pine .....	16,902,812
Regular Coastal Loblolly Pine .....	5,682,976
Improved Piedmont Loblolly Pine .....	15,027,600
Regular Piedmont Loblolly Pine .....	6,919,950
Slash Pine .....	143,525
Longleaf Pine .....	1,043,235
White Pine .....	595,750
Virginia Pine .....	872,500
Redcedar .....	147,500
Yellow Poplar .....	24,075
Baldcypress .....	80,500
Black Walnut .....	48,025
Sycamore .....	18,525
Arizona Cypress .....	11,000
Spruce Pine .....	4,500
Leyland Cypress .....	7,585
Deodar Cedar .....	8,100
Sand Pine .....	15,250
Table Mountain Pine .....	1,450
Miscellaneous .....	<u>244,000</u>
<b>TOTAL .....</b>	<b>47,798,858</b>



TREE SEEDLING DISTRIBUTION  
BY  
LANDOWNER CLASSIFICATION  
1982-83

A. *State Nursery Source Seedlings Planted in the State:*

<i>Land Ownership</i>	<i>Percent of Total</i>	<i>No. Trees Planted</i>
Farmers .....	15.1	6,917,076
Other Individuals .....	22.6	10,309,137
Associations and Clubs .....	.5	213,500
Lumber Companies .....	1.2	560,000
Pulp & Paper Companies .....	42.6	19,441,150
Other Industry .....	8.9	4,054,150
Schools .....	.5	213,500
State Forests .....	.3	156,100
Other State Lands .....	.8	366,950
City, Town, Government .....	.4	214,699
Federal Government .....	5.5	2,471,411
Christmas Tree Growers .....	1.6	714,685
	100.0	45,632,358

B. *Other Source Seedlings Planted in the State:*

1. *Nurseries in South Carolina*

Champion International .....	5,963,019
Westvaco .....	20,064,128
	26,027,147

2. *Nurseries Outside South Carolina*

Continental Forest Industries .....	896,000
Federal Paper Board .....	319,000
Georgia-Pacific Corp. ....	87,000
Hiwassee Land Company .....	6,314,000
International Paper Company .....	1,640,000
N. C. Forest Service .....	684,750
U. S. Forest Service .....	654,620
Union Camp .....	2,661,000
Weyerhaeuser .....	1,349,424

	14,605,794
Total Other Source Seedlings .....	40,632,941

TOTAL SEEDLINGS PLANTED IN THE STATE ..... 86,265,299

C. *State Nursery Source Seedlings Shipped Out of State* ..... 2,166,500

D. *Direct Seeded:*

U. S. Forest Service ..... 41 Acres

## CUMULATIVE TREE PLANTING RECORD — ALL SOURCES

<i>County</i>	<i>Seedlings Planted 1982-83</i>	<i>Grand Total Planted To Date 1929-83</i>	<i>Acres Planted 1929 Thru 6/30/83</i>
Abbeville .....	1,382,750	42,352,187	47,905
Aiken .....	2,785,450	175,294,653	184,743
Allendale .....	2,171,789	63,782,172	68,824
Anderson .....	1,243,100	39,116,442	41,626
Bamberg .....	1,230,500	34,603,009	37,154
Barnwell .....	3,486,970	92,073,726	98,473
Beaufort .....	845,250	19,804,695	22,400
Berkeley .....	2,639,140	80,900,381	93,117
Calhoun .....	1,052,050	22,813,120	25,329
Charleston .....	1,118,460	25,461,085	31,233
Cherokee .....	826,500	23,082,079	25,204
Chester .....	2,753,870	57,201,689	87,974
Chesterfield .....	2,153,100	107,920,265	115,903
Clarendon .....	1,737,500	40,709,965	46,136
Colleton .....	4,463,210	79,952,849	104,153
Darlington .....	841,150	26,193,095	29,767
Dillon .....	502,600	16,751,740	18,907
Dorchester .....	2,585,036	48,262,857	55,116
Edgefield .....	1,891,150	45,814,308	53,165
Fairfield .....	3,481,772	62,357,397	71,151
Florence .....	1,159,850	19,162,031	22,714
Georgetown .....	4,526,500	90,564,800	104,955
Greenville .....	310,750	23,044,554	24,518
Greenwood .....	2,285,150	57,492,471	57,065
Hampton .....	2,988,623	70,069,402	79,185
Horry .....	2,052,774	52,106,259	59,261
Jasper .....	2,684,347	63,596,077	71,939
Kershaw .....	1,923,662	147,204,895	158,230
Lancaster .....	2,697,600	50,539,840	57,419
Laurens .....	1,895,420	68,168,465	75,615
Lee .....	447,254	19,226,814	20,849
Lexington .....	1,396,650	48,559,972	51,653
Marion .....	990,400	22,917,455	25,945
Marlboro .....	738,000	39,901,658	44,605
McCormick .....	2,178,650	31,692,175	37,844
Newberry .....	2,524,850	52,732,622	61,226
Oconee .....	810,750	26,881,123	29,070
Orangeburg .....	4,066,462	81,816,204	91,854
Pickens .....	389,450	21,483,175	23,131
Richland .....	1,338,560	51,872,650	56,646
Saluda .....	3,083,000	27,841,951	33,606
Spartanburg .....	795,528	46,749,624	49,789
Sumter .....	836,950	53,663,117	57,138
Union .....	2,175,025	53,226,003	60,049
Williamsburg .....	1,417,497	53,137,689	63,200
York .....	1,360,250	45,421,946	49,042
TOTAL .....	86,265,299	2,423,520,686	2,724,828
Out-of-State .....	2,166,500	72,484,741	—
GRAND TOTAL .....	88,431,799	2,496,005,427	2,724,828

**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83**

<i>County</i>	<i>Improved Coastal Lob.</i>	<i>Regular Coastal Lob.</i>	<i>Improved Piedmont Lob.</i>	<i>Regular Piedmont Lob.</i>	<i>Slash</i>	<i>Longleaf</i>	<i>White Pine</i>
Abbeville			1,329,500	30,050			9,350
Aiken	239,000	210,000	1,537,000	459,000		266,500	15,000
Allendale	1,900,189	62,000	69,000		15,000		3,000
Anderson		600,000	257,500	301,000	500	1,500	29,500
Bamberg	984,200	187,000	44,000		5,000	500	1,000
Barnwell	1,438,170	89,000	946,000	858,000	5,500		1,000
Beaufort	615,000	191,000			3,000	16,000	500
Berkeley	2,423,680	74,560			6,500	114,300	
Calhoun	887,500	113,000	26,500			4,500	3,500
Charleston	811,500	56,060	5,000		5,000	203,600	2,500
Cherokee			800,000	1,000			15,000
Chester			1,770,970	972,350		500	1,350
Chesterfield	72,000	234,000	1,203,000	532,000		73,500	8,000
Clarendon	1,658,500	52,500			500	500	3,000
Colleton	3,904,100	530,000			5,000	2,000	3,000
Darlington	401,000	252,500	6,000	143,000		2,000	7,000
Dillon	401,600	44,500	5,000	30,000			6,000
Dorchester	2,225,060	327,426			6,000	1,000	500
Edgefield			1,834,000	32,050			1,350
Fairfield	5,250	503,745	2,757,277	138,050			4,850
Florence	631,775	430,000	1,500	63,000	500	4,000	5,000
Georgetown	4,489,000	500		10,000			
Greenville			188,500	11,000	500	500	45,000
Greenwood			2,031,550	240,500			8,100
Hampton	2,260,473	665,000			1,025	54,525	1,000
Horry	1,844,624	74,500		47,000	1,000	62,600	4,500
Jasper	2,225,347	343,000		40,000	65,000	500	
Kershaw	25,750	370,100	1,072,512	236,300		145,500	12,000
Lancaster			1,554,500	1,105,000		7,000	16,000
Laurens		158,800	1,412,670	238,000	3,000	500	23,350
Lee	24,500	268,850	125,354				3,000
Lexington	87,500	25,500	1,005,250	6,000	5,000	148,500	27,000



**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83 — Continued**

<i>County</i>	<i>Improved Coastal Lob.</i>	<i>Regular Coastal Lob.</i>	<i>Improved Piedmont Lob.</i>	<i>Regular Piedmont Lob.</i>	<i>Slash</i>	<i>Longleaf</i>	<i>White Pine</i>
Marion	616,500	233,500		130,000	3,000	3,900	1,000
Marlboro	288,500	118,000	209,000	52,000	500	62,000	2,500
McCormick			1,723,500	453,050			350
Newberry	75,000		2,225,000	194,050			11,350
Oconee	1,000		259,000	169,500			159,500
Orangeburg	3,454,237	447,500	3,000			3,500	22,750
Pickens			239,500	58,500	9,000	1,000	40,250
Richland	84,000	273,010	748,200	64,000		40,500	9,750
Saluda	75,000		2,777,500	191,100		500	8,200
Spartanburg		21,228	594,000	96,500			41,500
Sumter	530,100	115,000	120,500				6,500
Union		253,225	1,510,000	397,000			8,000
Williamsburg	1,326,447	2,000		75,000			
York			816,300	488,500			23,250
Sub Totals	36,006,502	7,327,004	31,208,083	7,862,500	140,525	1,221,425	595,250
Out Of State	72,000	1,014,000	711,000	362,000	3,000	1,000	500
TOTALS	36,078,502	8,341,004	31,919,083	8,224,500	143,525	1,222,425	595,750

**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83**

County	Virginia Pine	Redcedar	Yellow Poplar	Baldcypress	Black Walnut	Sycamore	Arizona Cypress	Spruce Pine
Abbeville	8,000	4,500	250		250	750		
Aiken	41,650	3,000	500	650	2,000	1,000	1,000	500
Allendale	9,650	500		150				
Anderson	41,500	8,000		500	1,500	1,500		
Bamberg	5,650			2,650	500			
Barnwell	15,650	1,000		650				
Beaufort	16,000	2,000		500	500	500		
Berkeley	5,000	1,500		12,000	1,000		500	
Calhoun	4,650	5,500		650	3,000		1,000	1,000
Charleston	25,000	2,000		5,750				500
Cherokee	7,500	500	1,000	500	500	500		
Chester	8,000				500			
Chesterfield	7,500	5,000		12,000	2,000	500	3,000	
Clarendon	20,500	2,000						
Colleton	12,500	1,500		4,500	500			
Darlington	14,000	7,000		7,000			1,500	
Dillon	13,500		500	500	1,000			
Dorchester	10,000	6,500	1,000	3,000	2,000	2,000	500	
Edgefield	13,000	6,500	2,000	1,500	500			
Fairfield	70,500	1,500		500				
Florence	14,500	4,500	575	4,000				
Georgetown	6,000	1,000		500	500			
Greenville	53,500	4,500	500	1,000	3,000	500	1,000	500
Greenwood	3,000	1,000	500		500			
Hampton	2,500	1,500	1,000		525	1,025		
Horry	14,000	4,000						
Jasper	9,000	1,000			500			
Kershaw	20,500	5,500		500	1,000	1,000		
Lancaster	13,000	500		500				500
Laurens	46,000	2,000	1,000		3,500	1,000		
Lee	17,500	2,000	5,500	500				
Lexington	59,650	9,500	500	1,850	2,000	1,750	1,000	500

**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83 — Continued**

<i>County</i>	<i>Virginia Pine</i>	<i>Redcedar</i>	<i>Yellow Poplar</i>	<i>Baldcypress</i>	<i>Black Walnut</i>	<i>Sycamore</i>	<i>Arizona Cypress</i>	<i>Spruce Pine</i>
Marion	2,500							
Marlboro		2,000			3,000	500		
McCormick	500		250		750	250		
Newberry	12,500	2,000	1,000	1,500	1,000	1,000		
Oconee	30,000	3,500			2,000			
Orangeburg	66,600	6,000	2,000	16,400	3,000	2,000		900
Pickens	20,000	14,500	3,000	500	1,000	1,000	1,000	
Richland	37,000	6,000		2,000	2,500	500	500	
Saluda	27,000	3,000		250		250		
Spartanburg	36,750	2,500	500	1,000	1,500			
Sumter	58,000	5,000	500	500		500		100
Union	3,750	500	1,500	500	500			
Williamsburg	8,000	3,500			1,500			
York	24,000	2,500	500		3,000	500		
Sub Totals	935,500	146,500	24,075	84,500	47,025	18,525	11,000	4,500
Out of State	1,000	1,000			1,000			
TOTALS	936,500	147,500	24,075	84,500	48,025	18,525	11,000	4,500



**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83**

<i>County</i>	<i>Leyland Cypress</i>	<i>Deodar Cedar</i>	<i>Sand Pine</i>	<i>Table Mountain</i>	<i>Miscellaneous</i>	<i>Totals</i>
Abbeville	100					1,382,750
Aiken	150	500	8,000			2,785,450
Allendale	300				112,000	2,171,789
Anderson	100					1,243,100
Bamberg						1,230,500
Barnwell					132,000	3,486,970
Beaufort	250					845,250
Berkeley	100					2,639,140
Calhoun	250	1,000				1,052,050
Charleston	50	500	1,000			1,118,460
Cherokee						826,500
Chester	200					2,753,870
Chesterfield			600			2,153,100
Clarendon						1,737,500
Colleton	110					4,463,210
Darlington	150					841,150
Dillon						502,600
Dorchester	50					2,585,036
Edgefield	250					1,891,150
Fairfield	100					3,481,772
Florence	500					1,159,850
Georgetown					19,000	4,526,500
Greenville	250	500				310,750
Greenwood						2,285,150
Hampton	50					2,988,623
Horry	50	500				2,052,774
Jasper						2,684,347
Kershaw					33,000	1,923,662
Lancaster	100	500				2,697,600
Laurens	150		5,000	450		1,895,420
Lee	50					447,254
Lexington	650	1,000	500		13,000	1,396,650

**SEEDLING DISTRIBUTION FROM STATE NURSERIES AND  
OTHER SOURCE BY COUNTIES, SPECIES AND AMOUNTS  
1982-83 — Continued**

<i>County</i>	<i>Leyland Cypress</i>	<i>Deodar Cedar</i>	<i>Sand Pine</i>	<i>Table Mountain</i>	<i>Miscellaneous</i>	<i>Totals</i>
Marion						990,400
Marlboro						738,000
McCormick						2,178,650
Newberry	450					2,524,850
Oconee	250			1,000	185,000	810,750
Orangeburg	925	1,500	150		36,000	4,066,462
Pickens	200					389,450
Richland	600				70,000	1,338,560
Saluda	200					3,083,000
Spartanburg	50					795,528
Sumter	150	100				836,950
Union	50					2,175,025
Williamsburg	50	1,000				1,417,497
York	700	1,000				1,360,250
Sub Totals	7,585	8,100	15,250	1,450	600,000	86,265,299
Out Of State						2,166,500
TOTALS	7,585	8,100	15,250	1,450	600,000	88,431,799

*Miscellaneous Species*

Livingston Parish	356,000
Pitch Pine	55,000
Shortleaf Pine	130,000
Texas Drought Loblolly	<u>59,000</u>
	600,000

<i>Year</i>	<i>Total Distributed (State Nurseries)</i>	<i>Total Distributed (Inc. Other Sources)</i>
1928-29 .....	142,000	142,000
1929-30 .....	148,000	148,000
1930-31 .....	986,000	986,000
1931-32 .....	976,000	976,000
1932-33 .....	996,000	996,000
1933-34 .....	1,031,000	1,031,000
1934-35 .....	7,529,000	7,529,000
1935-36 .....	23,000,000	23,000,000
1936-37 .....	22,000,000	22,000,000
1937-38 .....	11,192,000	11,192,000
1938-39 .....	10,854,000	10,854,000
1939-40 .....	12,244,000	12,244,000
1940-41 .....	21,165,423	21,165,423
1941-42 .....	10,275,037	10,275,037
1942-43 .....	4,742,010	4,742,010
1943-44 .....	5,662,608	5,662,608
1944-45 .....	1,926,840	1,926,840
1945-46 .....	6,402,255	6,402,255
1946-47 .....	1,962,600	1,962,600
1947-48 .....	11,356,990	11,356,990
1948-49 .....	30,338,775	30,338,775
1949-50 .....	29,501,955	29,501,955
1950-51 .....	20,615,315	20,615,315
1951-52 .....	16,619,000	16,619,000
1952-53 .....	22,035,850	32,246,298
1953-54 .....	36,210,100	42,852,314
1954-55 .....	35,373,025	45,182,255
1955-56 .....	34,413,550	42,931,755
1956-57 .....	55,753,600	69,658,736
1957-58 .....	60,846,200	93,369,084
1958-59 .....	123,985,000	166,351,000
1959-60 .....	147,146,365	187,516,418
1960-61 .....	145,609,075	158,330,575
1961-62 .....	71,892,420	83,844,470
1962-63 .....	56,191,241	64,201,541
1963-64 .....	51,445,597	62,423,597
1964-65 .....	49,009,893	60,683,493
1965-66 .....	42,310,685	56,529,185
1966-67 .....	48,575,190	69,597,590
1967-68 .....	39,970,136	58,812,136
1968-69 .....	29,529,285	51,453,285
1969-70 .....	31,415,430	49,202,630
1970-71 .....	31,939,880	54,540,880
1971-72 .....	23,677,925	41,357,225
1972-73 .....	30,977,800	45,239,100
1973-74 .....	28,443,000	42,305,500
1974-75 .....	40,081,500	55,996,500
1975-76 .....	40,664,387	59,063,387
1976-77 .....	39,795,375	59,238,275
1977-78 .....	45,734,500	64,380,200
1978-79 .....	43,009,533	65,936,933
1979-80 .....	46,374,919	76,206,619
1980-81 .....	53,512,622	86,419,513
1981-82 .....	55,727,828	87,793,028
1982-83 .....	47,798,858	86,265,299
<b>TOTAL .....</b>	<b>1,861,117,577</b>	<b>2,471,595,629</b>



## INFORMATION AND EDUCATION SECTION

The purpose of the Information and Education Section is to promote the wise use of the forest resource. To this end the Section produces and disseminates forest related materials. It further provides Commission personnel with the training and support materials, scripts, photographs, and audio and video footage, to positively convey the Commission's message.

### Reforestation Promotion

The regeneration of South Carolina's forestland was selected as the focus theme for the year. In conjunction with the enactment of the Forest Renewal Program by the State Legislature, a slide-tape program, an informational brochure, various news articles, and a news conference focused attention on this cooperative venture with Forest Industry and the forestry community.

An Arbor Day campaign featuring "Arbor Day — Plant the Idea" was continued in cooperation with Clemson University Extension. International Society of Arboriculture Gold Leaf Awards were presented to Lugoff-Elgin Middle School, and the Greenville Council of Garden Clubs for the best Arbor Day Activities. In addition, an Arbor Day T. V. spot was delivered to the twelve television stations with viewing audiences in South Carolina.

Two brochures, "Equipment and Services", describing various Commission services and equipment, and "Buying and Selling Firewood", were produced for landowner information.

### Forest Fire Prevention

The Forestry Commission continued its involvement with the National Cooperative Forest Fire Prevention Program and also the regional Southern Cooperative Forest Fire Prevention Program. Commission personnel distributed over 330,000 pieces of literature to school age children, and delivered the Ad Council sponsored fire prevention material to all the radio, television, and newsprint outlets in the state.

The Section also produced a 30-second public service television spot "The County Ranger", the fire prevention exhibit for the State Fair, and a "Smokey Bear" bookmark.

### Training

Several media-related training sessions were conducted for Commission personnel:

1. Fire Information Officer Training was presented to Assistant District Foresters (ADF), Protection and Administration (P&A).

2. Field supervisors and ADF's P&A heard a presentation by Jerry Dyer, the STATE newspaper's Pee Dee correspondent, on "News Reporting."

3. Field supervisors received instruction on conducting a Smokey Bear Program and also viewed a video tape on the subject.

4. An update of I&E programs and productions and media contact training were conducted in the Orangeburg and Walterboro Districts.

5. *The Williams-Hill Fire*, a slide-tape program on a wild fire related casualty, was produced to instruct individuals in personal safety. The program has received acclaim from California, North Carolina, and other states.

### **Resource Education**

In promoting the informed use of the forest resource among educators, Section personnel participated in four Environmental Education Institutes across the state. Seven Project Learning Tree Workshops were conducted. To date, over 1,370 people have been trained in the use of these materials produced for and supported by the American Forest Institute.

### **Sign Shop**

In addition to providing carpentry and cabinet-making support, the sign shop constructs and maintains Commission signs and exhibits, and acts as a clearing house for literature. Personnel prepared and assisted in setting up forty-one exhibits, and building or repairing 25 signs.

### **Speeches and Articles**

The Section assisted in the preparation of four speeches given by the State Forester, and also prepared three articles for the *Forest Farmer*, and an article for the Forestry Association.

### **Tree Country**

Three issues of the in-house publication "Tree Country" were prepared and mailed to approximately 1,000 employees, board members, and others interested in Commission activities.

### **Staff support**

Photographic stories of the new greenhouse construction and operation at Creech Seed Orchard are continuing, as well as pictures of the proposed second generation seed orchard. Video footage was taken of the National Guard helicopter bucket training at Manchester State Forest, and an aerial ignition prescribed burning demonstration at Sand Hills. Personnel participated in staff studies of Urban Forestry and revision of the Annual Report.

<i>District</i>	<i>School Programs</i>		<i>Talks</i>		<i>Smokey Bear Programs</i>		<i>Workshops Field days</i>		<i>Arbor Day</i>		<i>Radio</i>	<i>TV</i>	<i>News Releases</i>	<i>Parades</i>	<i>Exhibits</i>
	<i>#</i>	<i>Attnd.</i>	<i>#</i>	<i>Attnd.</i>	<i>#</i>	<i>Attnd.</i>	<i>#</i>	<i>Attnd.</i>	<i>#</i>	<i>Attnd.</i>					
Camden	16	496	32	1,328	27	1,450	8	230	7	935		3	10	13	3
Florence	4	122	37	1,457	27	730	18	972	2	75	4	2	40	11	4
Kingstree	10	222	20	542	1	300	3	122	7	429	18		37	5	3
Newberry	102	5,040	58	1,954	20	1,440	18	1,579	7	1,029	15	2	36	13	11
Orangeburg	32	2,780	29	723	20	715	3	98	1	40		2	33	26	3
Spartanburg	48	1,750	44	1,180	9	1,650	38	1,224	2	90	6	7	80	9	4
Walterboro	2	120	15	426	8	620	4	150	6	525	7	2	16	14	4
Columbia			5	163			11	272					33		9
TOTAL (Field)	214	10,530	235	7,610	112	6,905	92	4,375	32	3,123	50	18	252	91	32
TOTAL	214	10,530	240	7,773	112	6,905	103	4,647	32	3,123	50	18	285	91	41



## TRAINING SECTION

The training Section plans, coordinates, and evaluates the Forestry Commission training in all subject areas.

Each year a training schedule is prepared in cooperation with all program managers. This helps to set priorities and to ensure that needed training is scheduled, planned, and presented in a logical order.

Standard training programs have been prepared, or are planned, for new employees in all job areas. These programs will ensure that all subjects are covered in a logical order and will help the new employee reach the standards for the assigned job as soon as practical. Programs are in use for foresters, district rangers, county rangers, district forest technicians, fire tower operators, wardens, mechanics, radio technicians, and staff assistants/clerks. Programs for other jobs will be prepared and existing programs updated on a regular basis.

A training library including manuals, films, tapes, slides, lesson plans, etc., is maintained.

Most training is done using Forestry Commission personnel as instructors. Other schools and instructors are utilized when possible. These other sources include the U. S. Forest Service, Clemson University, University of South Carolina, South Carolina State Personnel Training Division, industry representatives, the South Carolina Criminal Justice Academy, and others.

### Training highlights for 1982-83

- *Basic Fire Fighting School*, three days. This was held for all new fire wardens, rangers, and foresters. It was also conducted as refresher training for all fire fighting personnel in Florence and Newberry District.
- *Basic Fire Fighting For Cooperators*, two days. This was held for forest industry personnel in the Kingstree District.
- *Prescribed Burning School*, two days. Twenty five people attended this.
- *Law Enforcement In-Service Training*, two days. This was conducted at the S. C. Criminal Justice Academy for sixty-three personnel who hold law enforcement commissions.
- *Forest Soils Workshop*, four days, for foresters.
- *Hardwood Utilization School*, two days, for foresters.
- *Microcomputers In Forestry*, one day, for sixty-eight Forestry Commission and industry personnel.
- *Pesticide Application Training*, five days, for sixteen foresters.
- *Employee Performance Management System*, four hours, for all supervisory personnel.

- *Fire Behavior Course*, a national level training course, was conducted for ten people.
- *Forest Tree Nursery Training*, a program for selected personnel, was begun. Included this year was:
  - Equipment Maintenance School, four days.
  - Seedling Packing and Handling, one day.
  - Nursery Soils, two days.
- *Rural Fire Department Training*, a program conducted by the Forestry Commission to train Rural Fire Department personnel, was held for twenty-nine departments with 299 personnel receiving training.

## INSECT AND DISEASE SECTION

The Insect and Disease Section, in cooperation with the State Plant Pest Regulatory Service and the U. S. Forest Service, maintains a program to detect, evaluate, and suppress forest pests. Through cooperative agreements, these agencies make their technical assistance and advice available to the Forestry Commission.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically of specific pests to determine occurrence and the need for suppression action.

### Major Insect Problems

#### *Hardwood defoliators*

A massive outbreak of hardwood defoliating insects which began in the coastal plains in 1981 continued this spring. The primary insects involved were forest tent caterpillar, spring and fall cakerworm, and white-marked tussock moth. Since these insects cause nuisance problems in residential areas, the Insect and Disease Section received numerous requests from municipalities which desired evaluations for probable extent of spring defoliation. The towns of Briarcliffe Acres, St. George, and Walterboro entered into cooperative agreements with the Forestry Commission to conduct these evaluations. In addition, Wildwood Nursery (Colleton County), Moss Creek Plantation (Jasper County), Brookgreen Gardens (Georgetown County), Wachesaw Plantation (Georgetown County), and Okeetee Plantation (Jasper County) requested Commission assistance. In all areas, surveys indicated that defoliator populations would be moderate to high and aerial spraying was recommended.

Moss Creek Plantation conducted an aerial spraying control program on 700 acres. Wildwood Nursery, Brookgreen Gardens, Okeetee Planta-



tion and Wachesaw Plantation conducted a ground control program with mist blowers. All treatments appeared to give good control. Post-suppression surveys will be conducted in the winter of 1983-84.

### *Southern Pine Beetle*

In July 1982 a southern pine beetle outbreak began. Aerial surveys in August revealed 7 million board feet of timber and 15,000 cords of pulpwood killed. At that time State Forester Kilian declared a forest pest outbreak and designated a 17 county control zone. Counties in this zone are: Abbeville, Anderson, Berkeley, Cherokee, Fairfield, Greenville, Greenwood, Kershaw, Lancaster, Laurens, McCormick, Newberry, Oconee, Pickens, Richland, Spartanburg, and Union.

Following this action the Forestry Commission requested and received funding from the U. S. Forest Service to implement a southern pine beetle suppression program. By the end of the fiscal year, approximately 55% of the timber killed by the beetles had been salvaged. Aerial surveys indicate the beetles will continue to spread through next year.

## **Major Disease Problems**

### *Lophodermium Needle Cast*

An outbreak of lophodermium needle cast disease on Virginia Pine Christmas trees posed a threat to Christmas tree plantations in South Carolina. On request, the Insect and Disease Section set up a monitoring system to determine the proper timing for fungicide application for lophodermium control.

### *Oak Wilt*

Oak wilt disease has been identified in Chesterfield, Kershaw, Lancaster, Lee, and Richland Counties. It appears to be spreading slowly and causing losses only to low value oaks. Since there is potential for loss of valuable trees, including shade trees, periodic surveys are made to evaluate the spread.

### *Dutch Elm Disease*

Dutch Elm disease has been confirmed in Aiken, Anderson, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Lancaster, Laurens, Lexington, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, and York Counties. It is expected to gradually spread through the state because the primary agent of spread, the smaller European elm bark beetle, occurs statewide.



### **Integrated Pest Management**

The Forestry Commission, Clemson University, and the U. S. Forest Service have begun an integrated pest management demonstration project in South Carolina. During the first phase of this project, the Commission acquired a portable sawmill. The mill will be used to demonstrate the feasibility of salvaging timber from small southern pine beetle spots by sawing the infested wood into lumber at the site of the beetle infestation. Demonstrations of the mill are planned for next fiscal year in the pine beetle infestation zone.

### **Forest Insect and Disease Laboratory**

In January 1983 the laboratory of the Insect and Disease facility was completed and activated. Between January and June, 68 samples were processed and identified in the lab. The majority of the samples were submitted by Commission personnel, with some from consulting foresters as well as private individuals. By use of the lab facilities, a root problem in the Forestry Commission containerized seedling greenhouse was quickly identified, enabling timely control of a potentially devastating disease.

The lab is also equipped to analyze soil organic matter and pH. Soil samples from all Forestry Commission tree nurseries were analyzed in the spring of 1983 and recommendations for ameliorating deficiencies were made and are being acted on.

### **Miscellaneous Insect and Disease Checks**

Commission foresters made approximately 1,720 field checks of insect and disease problems and made recommendations for prevention and control. Other inquiries were handled by telephone, mail, and personal contact.

## STATE FORESTS

There are four state forests operated by the Forestry Commission:

Cassatt State Forest (Kershaw County) .....	462 acres
Harbison State Forest (Richland County) .....	2,188 acres
Manchester State Forest (Sumter County) .....	28,830 acres
Sand Hills State Forest (Chesterfield County) .....	<u>92,000 acres</u>
<b>TOTAL .....</b>	<b>123,480 acres</b>

Prior to acquisition by the state, most of the land included in the state forests had been heavily cut over and generally misused. The primary efforts since acquisition by the state have been directed to building up the growing stock in existing forest stands, planting submarginal old fields to desirable species of forest trees, developing adequate multiple use and wildlife management programs, and protecting endangered species.

It is the objective of the S. C. Forestry Commission to practice the principles of high quality multiple use and sustained yield timber management on forest lands under the agency's jurisdiction and to promote practices to protect and enhance environmental quality in the management of all forest ownerships.

Silvicultural practices are carried out on small blocks interspersed throughout a compartment. This even-age management produces compartments representing all age groups of timber, such as: newly-cleared areas favored by doves, quail, and deer; young, dense stands necessary for cover and concealment; and older, more open stands also needed for quail, deer, and the endangered red-cockaded woodpecker. Den trees for squirrels are reserved. Game census reports indicate this method of management produces optimum numbers of game species and timber production with costs of timber management not adversely affected.

### Payment to Counties

Twenty-five percent of the gross receipts of all state forest operations is paid in lieu of taxes to the counties in which the forest is located. This year's payments to counties were as follows:

Chesterfield (Sand Hills State Forest) .....	\$125,102.92
Darlington (Sand Hills State Forest) .....	\$ 1,519.47
Sumter (Manchester State Forest) .....	\$ 30,528.00
Richland (Harbison State Forest) .....	\$ 25.00

In the past 25 years since the passage of this Act, the Forestry Commission has paid a total of \$2,348,354.28 to counties where the state forestlands are located as follows:



Chesterfield .....	\$1,531,929.80
Darlington .....	\$ 35,550.25
Sumter .....	\$ 722,749.58
Richland .....	\$ 49,630.16
Kershaw .....	\$ 8,494.49

### **CASSATT STATE FOREST**

Cassatt State Forest, comprised of 462 acres, is located about two and one-half miles north of Cassatt, S. C. It was deeded to the state by the late J. R. West on May 28, 1935. Cassatt Lookout Tower and a dwelling for the tower attendant were erected by the Civilian Conservation Corps (CCC) and continue to be used for fire detection.

Sand Hills State Forest personnel maintain a system of boundary firebreaks. Breaks have also been plowed around plantations and along the public road which crosses this property and all boundary lines have been permanently marked.

### **HARBISON STATE FOREST**

Harbison State Forest, containing 2,188 acres, is located in Richland County. The Richland County fire control organization is responsible for fire protection. A caretaker lives on the forest.

Most of the Harbison Forest is well-stocked and is in good growing condition. During the thirty-one years the state has owned this property, timber receipts have paid for the land purchase, plus interest and all operating costs, and have returned substantial amounts to the state and county treasuries. A comprehensive land use study, completed last year and known as the Harbison State Forest Master Plan of Management Objectives, was implemented during 1982-83.

### **MANCHESTER STATE FOREST**

Manchester State Forest, located south of Wedgefield in Sumter County, contains 28,830 acres. From 1938 to 1955, this land was leased by the S. C. State Commission of Forestry from the federal government. The state received fee title to this property on June 28, 1955. Most of the old farm fields, except those being leased for farming, have been planted to trees.

### **Game Management**

An intensified program of game management has been introduced in cooperation with Sumter County Game & Fish Association and the S. C.



Wildlife and Marine Resources Commission. In addition to utilizing power line rights-of-way for wildlife plantings, permanent wildlife fields and food patches have been established. Receipts from hunting and fishing permits totaled \$3,667.50 this fiscal year.

Of the 2,940 permits sold, 866 were for deer hunting. During the year, 615 dove permits were sold. Quail hunting accounted for 28 permits. Combination rabbit and squirrel permits totaled 18. A total of 1,413 fishing permits were sold.

### Recreation

Recreation other than hunting and fishing includes hiking, berry picking, sightseeing, motorcycling, horseback riding, and field trials. The Fulton Horse Trail is located in Compartment 1. It consists of 30 miles of marked trail and two staging areas.

### Receipts

#### Manchester Receipts for 1982-83 Fiscal Year

Sawtimber — 1,076,919 bd. ft. ....	\$208,759.24
Pulpwood — 3,070 cords .....	\$ 3,624.50
Fuelwood — 844 permits — 261.5 cords .....	\$ 6,853.50
Rentals, leases, and miscellaneous .....	\$ 48,120.90
Hunting and fishing permits .....	\$ 3,667.50
<b>TOTAL .....</b>	<b>\$271,025.64</b>

### Tree Planting

Improved coastal loblolly pines were planted on 156 acres.

### Silvicultural Practices

One hundred twenty-six acres were site prepared by bulldozer and drum chopper. One thousand, two hundred eighty-seven acres were prescribed burned.

### Forest Protection

Eight forest fires occurred during the year. A total of 57.1 acres were burned. Monthly checks were made for insect and disease damage. Research in cooperation with the Southeastern Forest Experiment Station is being continued on insect and disease control and prevention.

In addition to the research projects, demonstration areas were used by Clemson students, 4-H clubs, and other interested groups.

## Land Rentals

### *Agricultural Lands*

Five hundred eighty-four acres of open fields were rented by fourteen persons for agricultural purposes during the year.

### *Shaw Air Force Base*

The U. S. Air Force leases 7,687 acres of Manchester State Forest in Compartment 4 for an aerial gunnery range to train pilots from various Air Force bases in the southeastern United States. The South Carolina Air National Guard has access to the range and uses it frequently.

## SAND HILLS STATE FOREST

Sand Hills State Forest, located in Chesterfield and Darlington Counties, contains 92,000 acres. Half of the area is administered by the U. S. Fish and Wildlife Service as the Carolina Sandhills National Wildlife Refuge. The Forestry Commission is responsible for forest fire protection and forest management activities on the refuge portion and administers the other half as a multiple use forest. Leased from the federal government for 95 years, the forest became self-supporting in 1966. Revenue accrued over expenses each year is expended on the forest for further improvements and expanded operations.

The present forest was heavily cut over and badly burned before acquisition by the federal government. As a result of this abuse, major activities since acquisition have been tree planting, fire protection, and other practices aimed at building up the productivity of the land and increasing timber volume and wildlife habitat. Through the use of forest inventory data obtained periodically, the allowable cut and distribution of the age classes of pine and hardwood timber is regulated.

## Forest Management

Timber removal this year has been harvest-cutting pine overstory to release natural seedlings; cutting understocked stands prior to mechanical site preparation and planting; thinnings; and improvement cuts.

A revised forest management plan is now in use which includes multiple resource management concepts. It is planned for each of the twenty-one compartments to contain stands of varied age groups and species composition with open farm fields and wildlife plantings intermixed throughout. Quality mast-producing hardwoods are maintained on appropriate sites. Important consideration is given the red-cockaded woodpecker in all management planning and according to the mandates of the Endangered Species Act of 1973.

Research is conducted on the forest by the U. S. Forest Service and state universities. Demonstration areas are maintained to instruct interested



individuals and groups such as 4-H, Boy Scouts, Tree Farmers, and foresters.

### Receipts

#### Sand Hills Receipts for 1982-83 Fiscal Year

Sawtimber — 1,801,179 bd. ft. ....	\$342,996.02
Pulpwood — 6,684 cords .....	\$124,824.58
Fuelwood — 244 cords .....	\$ 2,194.00
Rentals .....	\$ 14,293.17
Hunting and fishing permits .....	\$ 7,852.50
Miscellaneous (stumps, pine straw, etc.) .....	<u>\$ 14,329.27</u>
Total .....	\$506,489.54

### Tree Planting

Trees were planted on lands that were harvest-cut and site prepared. A total of ninety-one acres were planted with the following species:

Longleaf .....	55,000
Improved Piedmont Loblolly .....	<u>35,000</u>
Total .....	90,000

### Silvicultural Practices

During the year, 5,063 acres were prescribed burned. Of this total, 2,856 acres were prescribed burned by aerial ignition. This service was by contract with a helicopter flying service.

### Forest Protection

Forest boundary lines were disked and firebreaks disked along major roads and railroads for fire protection. The prescribed burning enhances fire protection due to the fuel reduction in burned areas. Eleven wildfires occurred, burning a total of 353.7 acres. Forest insects and diseases were no problem during the year.

### Recreation

The Sugar Loaf Mountain recreation area continued to receive heavy use. Besides the naturally-formed 150-foot high Sugar Loaf Mountain, there are five picnic shelters, a lake, fireplaces, a flowing well, parking areas, and latrines. Scout troops and other organized groups use this area and facilities for overnight camping. Many auto touring visitors drive through this forest, especially to view the fall leaf colors and to enjoy the blooming rhododendron near Sugar Loaf Mountain in the spring. A nature trail is available for hiking. The trail winds through a typical sand hill branch and an undisturbed wooded area containing many species of



mature trees. Use by horse riders continues to increase each year. Hitching posts have been erected.

### **Game Management**

Hunting and fishing are conducted in season by permit on the forest area. Cooperation with the State Wildlife Resources Commission and the U. S. Fish and Wildlife Service was excellent in game law enforcement. Deer, dove, and quail food patches are planted and maintained by the Forestry Commission.

There are thirteen ponds available for fishing on the forest. These are maintained through annual fertilization and weed control. Fishing permits this year totaled 3,767.

Dove, quail, squirrel, deer, and rabbit hunting were permitted on the state forest portion. Permit sales totaled 203 for dove, 203 for squirrel, 672 daily and three season for quail, 70 daily and 130 two-week season for deer, and 41 daily for rabbit.

### **Land Rentals**

Twenty-one farmland contracts comprising 888 acres were renewed in 1982-83. All of the rented farmland is planted to corn, beans, grain, or one of the lespedezas. All these crops benefit the wildlife program.

## **STATE LANDS FOREST MANAGEMENT PROGRAM**

The state lands forest management program provides technical forest management assistance to S. C. state agencies which own forest land.

During fiscal year 1982-83, five agencies requested and received forestry assistance. Forest product sales totaled 625,227 board feet of sawtimber and 1,315 cords of pulpwood for an income of \$90,768.35. Seventy-seven acres were site-prepared for tree planting and two hundred eighty-two acres were planted to tree seedlings. Approximately one hundred sixty acres were prescribed burned.

The following is a breakdown by agencies of the work accomplished during 1982-83:

#### *Clemson University Agricultural Experiment Stations*

Sale of 298,770 board feet of sawtimber and 140 cords of pulpwood for an income of \$36,508.00. One hundred sixty acres were prescribed burned. Tree seedlings were planted on seventy-nine acres. Fourteen acres were site prepared for tree planting.

#### *John de la Howe School*

Sale of 46,719 board feet of sawtimber and 30 cords of pulpwood for an income of \$7,153.45. Tree seedlings were planted on eighty-five acres.

*Division of State Parks*

Sale of 6,949 board feet of sawtimber and 748 cords of pulpwood for an income of \$7,376.90.

*Wildlife and Marine Resources Department*

Sale of 272,789 board feet of sawtimber and 397 cords of pulpwood for an income of \$39,730.00. Sixty-three acres were site-prepared for tree planting. Tree seedlings were planted on sixty-eight acres.

*University of South Carolina (Wedge Plantation)*

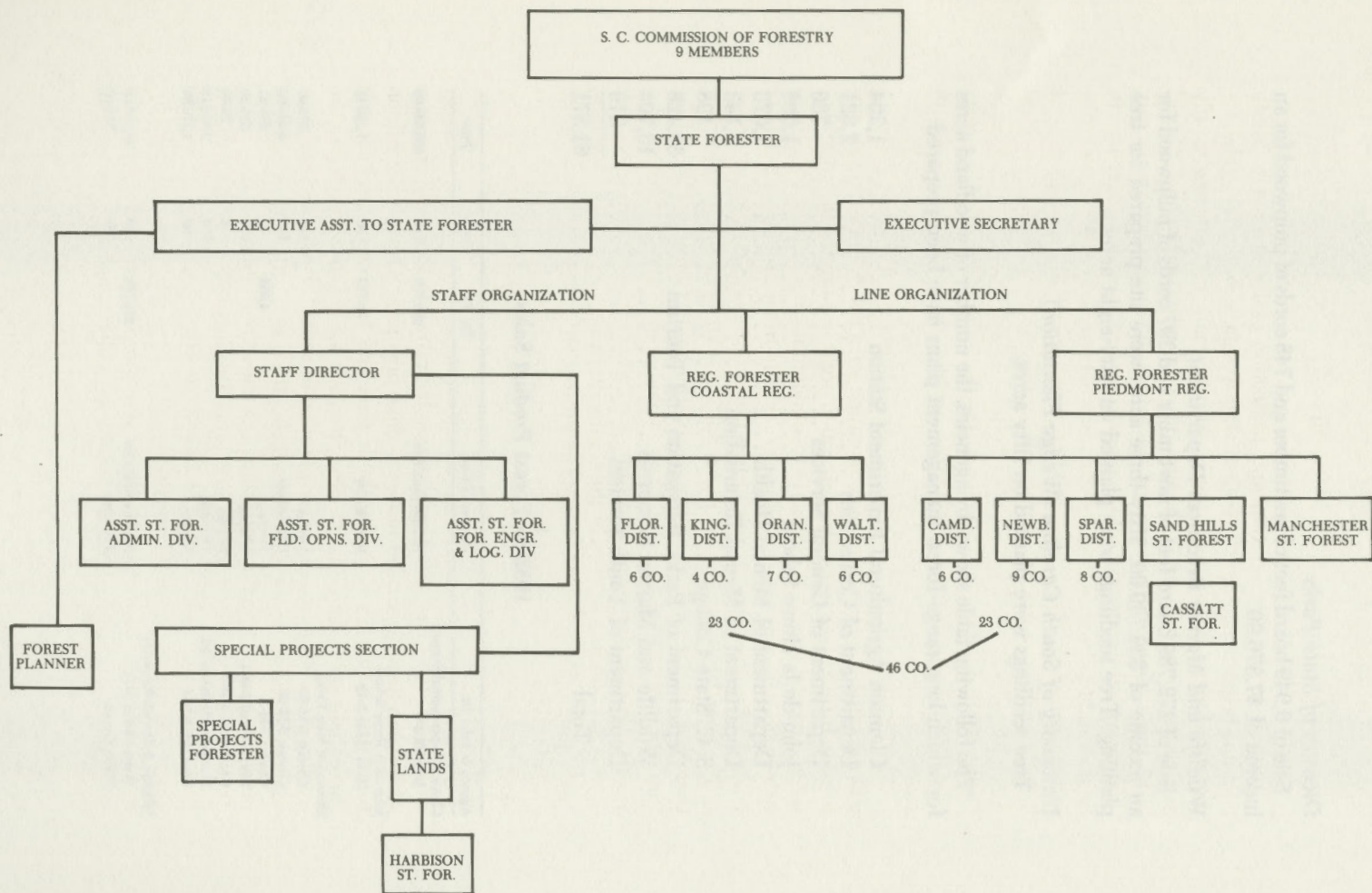
Tree seedlings were planted on fifty acres.

The following table shows, by agencies, the number of woodland acres for which long-range forest management plans have been prepared:

Clemson Agricultural Experiment Station .....	1,264
Department of Corrections .....	2,621
Department of General Services .....	766
John de la Howe School .....	1,056
Department of Mental Health .....	1,073
Department of Mental Retardation .....	1,142
S. C. State College .....	198
Department of Parks, Recreation and Tourism .....	39,428
Wildlife and Marine Resources .....	13,704
Department of Youth Services .....	319
Total .....	61,571

**1982-83 Forest Product Sales**

<i>Agency &amp; Sales No.</i>	<i>Purpose of Cut</i>	<i>Bd. Ft.</i>	<i>Cords</i>	<i>Price</i>
Clemson Experimental Stations				
Sandhill 3-4	Improvement Cut	298,770	140	\$36,508.00
John de la Howe School				
de la Howe 3-12	Harvest Cut	46,719	30	7,153.45
Division of State Parks				
Cheraw 3-M-25	Salvage		144	575.00
Cheraw 3-M-26	Fire Salvage		136	2,042.62
Chester 3-M-3	Trespass	4,952	10	228.32
Drayton Hall 3-M-1	Trespass		1,997	399.40
Greenwood 3-M-7	Salvage		8	74.80
Hampton Plantation 3-1	Thinning		360	2,883.12
Rose Hill 3-M-1	Salvage		90	1,173.64
Wildlife & Marine Resources				
Webb Center 3-13	Improvement Cut	272,789	30	38,980.00
Webb Center	Thinning		367	750.00





## HISTORY

Interest in the reforestation and protection of forest land in South Carolina began as early as 1787 when a law was passed which provided for the punishment of any person who wilfully, maliciously or negligently caused fire to do damage to the property of another. Between 1787 and 1912 some eleven bills were passed concerned with forestry, largely dealing with the protection of the forest from fire. Increasing activities in lumber and naval stores directed attention of thoughtful individuals to the fast disappearing timber supply. The growing interest in the future of South Carolina's forest resources culminated in the Act of the General Assembly of South Carolina (1976 Code of Laws, Volume 16, Title 48, Chapter 23), April 26, 1927, creating the State Commission of Forestry. The first appropriation of \$4,000 was made by the General Assembly in 1928.

The first organized forest fire control efforts were initiated in 1928 when groups of landowners in cooperation with the S. C. Forestry Commission formed five forest fire protection organizations for the control of woods fires on some 195,000 acres of woodland. These Forest Protective Associations, as they were known, grew in number and size until 1944 when 24 counties had organized fire protection organizations.

The year 1945 was a banner year for forest fire protection, for it was then that the General Assembly passed the South Carolina Forest Fire Protection Act (1976 Code of Laws, Volume 16, Title 48, Chapter 33) which extended organized forest fire protection to every county in South Carolina — the first of any of the southeastern states to take such a step.

Paralleling the growth of forest fire protection, reforestation of cutover and idle land also came in for ever increasing emphasis. Just two years after the Act creating the agency, the General Assembly authorized the Forestry Commission to establish a nursery and grow forest tree seedlings. This was done on a 5½-acre tract near Camden where 731,400 seedlings were raised the first year. This program has grown to four state nurseries and one industry-operated nursery which now produce some 50 million forest tree seedlings annually, both pine and hardwood, for planting throughout South Carolina. In 1961 attention was given to improving the quality of seedlings available for planting in South Carolina by establishing seed orchards of superior trees through a cooperative Tree Improvement Program involving both state and industrial interests.

Direct assistance to farmers and other landowners in managing their forest land began in the winter of 1930-31 as a demonstration in Fairfield County of proper thinning, measurement of board foot content of standing timber and use of equipment in suppression of forest fires. Under a cooperative agreement with the county agricultural agents, such demon-

strations were held just two years later in 33 counties. Such direct assistance has grown through the years and has expanded to include individual forest land examinations, 65,949 of which have been made by Commission foresters since 1941. In addition to these examinations, Forestry Commission foresters mark timber for sale for landowners.

From the very beginning of activity by the State Commission of Forestry, education has been a prime function in the fields of fire protection, reforestation and forest management. In the fall of 1928, at the South Carolina State Fair, an exhibit program was initiated that has been carried on continuously since that time. Each year the Forestry Commission places exhibits promoting a forest conservation concept in the State Fair and in every county fair that provides the space. The year 1929 saw expansion of the Forestry Commission's educational efforts when, in cooperation with the American Forestry Association, one, then later three, motion picture trucks showed movies and distributed literature to schools, clubs and other groups. In 1930 it was reported that 320 shows and lectures reached a total of 54,000 men, women and children. An additional boost was given the school program when in 1931, in cooperation with the office of the Supervisor of Vocational Agricultural Education, forestry was added as a study in Vocational Agriculture classes throughout the state.

At present, heavy emphasis continues through all media available — schools, clubs, civic groups, radio and television and the press in telling the forest conservation story and the needs of the future.

It is expected that the nation's demand for softwood from the South will increase from the present 35% to more than 50% by the year 2020. Further, pressure on the available supply of hardwood will increase proportionately. The outlook presents both a challenge and a distinct opportunity to increase appreciably the contribution of the wood-using industry to the economic health of South Carolina. Multiplied many times also will be demands for other uses of the forest — recreation, wildlife management, water conservation and a myriad of other needs in the area of aesthetics. The South Carolina Forestry Commission has been concerned through the years with all aspects of forest conservation and will continue to promote by every means available the wise use of South Carolina's forest resources to meet the demands of the future.